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McGraw-Hill Economics

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32nd ANNUAL McGRAW-HILL SURVEY OF PRELIMINARY PLANS FOR NEW PLANTS & EQUIPMENT, 1985-87

The latest McGraw-Hill survey of business investment plans is flashing a warning signal for the U.S. economy in 1986.

Next year, the survey found, companies intend to cut capital outlays in the U.S. by 1% to $380.7 billion (Table I*). Energy industries are among those planning the deepest cuts. But weak spending plans are not confined to a handful of industries; rather, weakness extends throughout both manufacturing and nonmanufacturing. After inflation, only a few industries currently plan any increase in 1986 plant and equipment investment.

Overall, businesses project a 4.7% rise in plant and equipment prices in 1986 (Table II). If both the inflation and expenditure projections materialize, "real" investment would drop a sharp 5.4%.

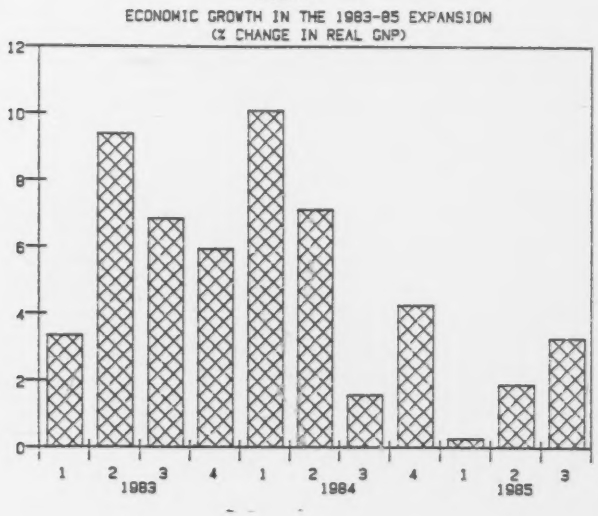
These are key findings of McGraw-Hill's "32nd Annual Survey of Preliminary Plans for New Plants & Equipment, 1985-87." Conducted in September and October, the survey drew responses from 540 companies that account for more than 30% of plant and equipment spending in the U.S. (Table X). Figures in the report refer to all firms in the U.S., however, not just to survey respondents. Figures also refer to domestic investment only, excluding U.S.

*Tables denoted by Roman numerals appear at the end of this report.

investment abroad.

If the U.S. economy were currently in a recession, these bearish survey results would not be surprising. For plant and equipment spending usually falls when recession grips the economy and forces firms into a bunker mentality. But though U.S. economic growth has teetered in the past year, it has nonetheless managed to stay positive (Chart 1). And a rising economy usually means rising capital investment. Hence the projected capital spending decline is curious and disturbing: Is the survey departing from its usual pattern of reflecting the economy, and instead stepping out and predicting a recession in 1986?

CHART 1

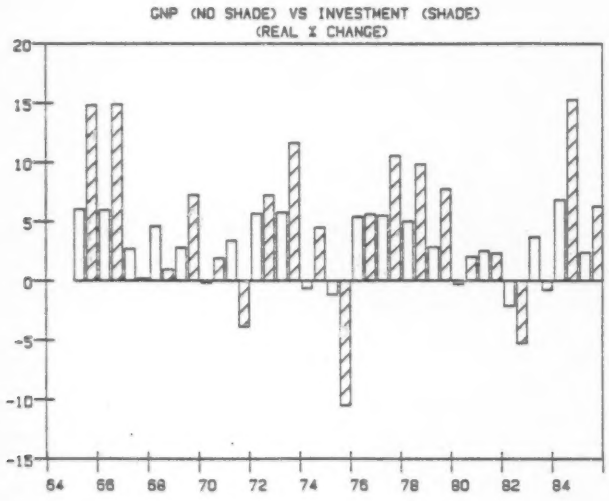


1986 Looks Shaky

In 1985, for the third year in a row, the U.S. economy expanded. Not surprisingly, then, after a little lag in 1983, capital spending also expanded (Chart 2). In other words, plant and equipment investment in the recession-recovery-expansion from 1981 to 1985 exhibited a typical business

cycle pattern: The economy slumps, spurring business to cut capital budgets after a little delay; when the economy starts to pick up again, firms hold off on spending until it's clear that business is on the mend; then, again with some delay, capital spending booms.

CHART 2



Projections from the McGraw-Hill fall survey of business' spending plans also go in cycles. If the economy is slumping, survey respondents tend toward gloomy plans for the following year. If the economy is good, relatively optimistic respondents make expansive plans for the coming year. Another feature of the survey over time is that because it is taken when many firms' plans are incomplete, the projections on average undershoot actual growth, as shown in Chart 3 and Table 1.

CHART 3

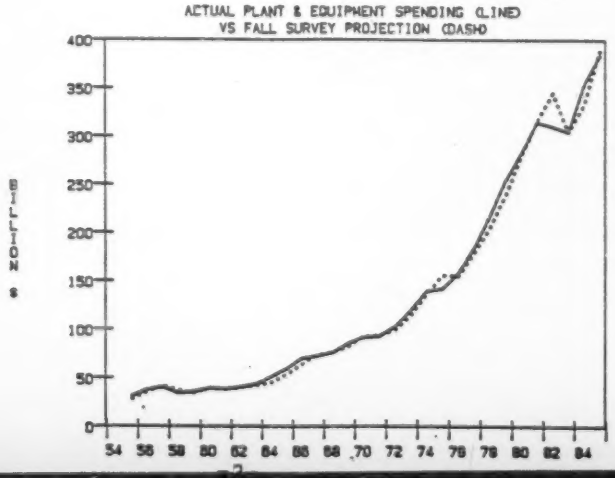


Table 1. Survey Track Record

	Actual	Fall Survey Projection*	Actual Minus Survey Projection
1955	7.2	-4.9	12.1
1956	22.5	13.4	9.1
1957	7.0	11.0	-4.0
1958	-16.5	-6.7	-9.8
1959	6.0	0.5	5.5
1960	9.9	10.0	-0.1
1961	-2.8	-2.7	-0.1
1962	6.6	4.0	2.6
1963	6.9	2.7	4.2
1964	17.4	4.2	13.2
1965	16.1	4.9	11.2
1966	18.3	7.8	10.5
1967	3.3	4.9	-1.6
1968	5.0	4.9	0.1
1969	12.2	7.6	4.6
1970	7.2	8.3	-1.1
1971	1.1	2.4	-1.3
1972	11.3	6.9	4.4
1973	16.1	10.6	5.5
1974	16.4	13.6	2.8
1975	2.0	11.8	-9.8
1976	11.3	8.8	2.5
1977	16.7	13.0	3.7
1978	17.8	11.1	6.7
1979	17.1	9.9	7.2
1980	10.9	9.6	1.3
1981	11.5	11.9	-0.4
1982	-1.5	9.6	-11.1
1983	-1.9	-2.1	0.2
1984	16.3	9.4	6.9
1985	8.4	9.8	-1.4

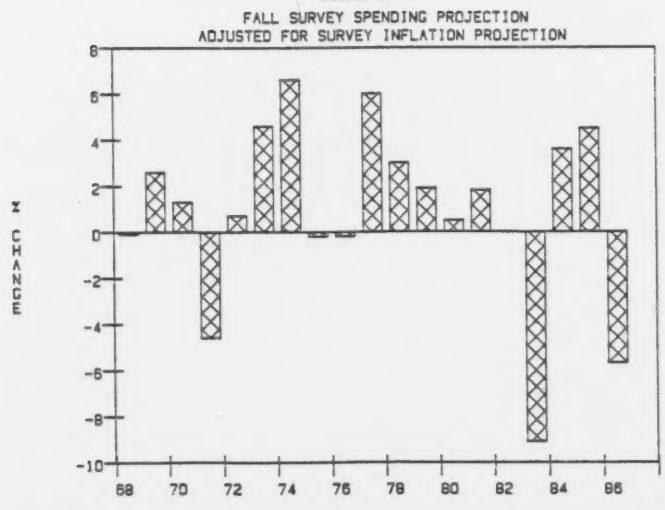
*From survey in year previous to forecast year--i.e., the 1985 projection of 9.8% was made in the fall of 1984.

So, given the cyclical natures of investment and the survey, it is odd to get a projection of pronounced weakness in 1986 investment when the 1985 economy has continued to grow. Note also in the survey's track record the rarity of a projected nominal reduction in investment. In fact, until the current survey, declines (as opposed to reduced growth rates) had been foreseen only three times since the fall survey began in 1955. Each time the survey predicted an outright decline in the past, the prediction proved accurate.

To be sure, inflation has gyrated greatly in the past thirty years so that all the nominal projections in Table 1 are hardly comparable on an after-inflation basis. But if the inflation expectations of survey respondents are used to adjust the nominal spending projections, the 1986 survey result is still very weak, as shown in Chart 4. (Inflation expectations were not surveyed until 1968.)

Once again, this current survey is unusual in that earlier real projected cutbacks by and large came at times when firms had been experiencing

CHART 4



recessions.* Yet, to repeat, despite the fact that the economy in 1985 has been growing, the survey points to a sharp inflation-adjusted spending decline in 1986.

Do the respondents therefore expect a recession, or do they interpret current economic conditions as recessionary? As for manufacturers, they expect sales to grow 6.2% next year, which translates into 3.4% after inflation (Tables IV and V). Those aren't boom expectations, but they're a long way from recessionary expectations. Nonmanufacturers are not as optimistic, but five industries in that sector are looking forward to inflation-adjusted sales increases while only two expect declines. In brief, regarding their own sales prospects, respondents anticipate a year of neither boom nor bust in 1986 .

But historically, while survey respondents tend to over-bearishness on capital spending, they are usually too bullish on sales projections. For example, last year at this time, manufacturers projected an 8.6% sales increase in 1985; thus far this year, sales are running only 3% ahead of a year ago. Perhaps also significant is the reduction in year-ahead sales expectations from 8.6% in the 1984 survey (for 1985) to 6.4% this year (for 1986), with inflation staying about the same. The conclusion is that while not forecasting recession, firms do anticipate a tougher business environment in 1986 compared with 1985.

Another indication that companies are thinking tough times in 1986 is the current cutback in capital outlays (Chart 5). Since sales are still growing, such cutbacks seem inconsistent with recession-think in the boardroom.

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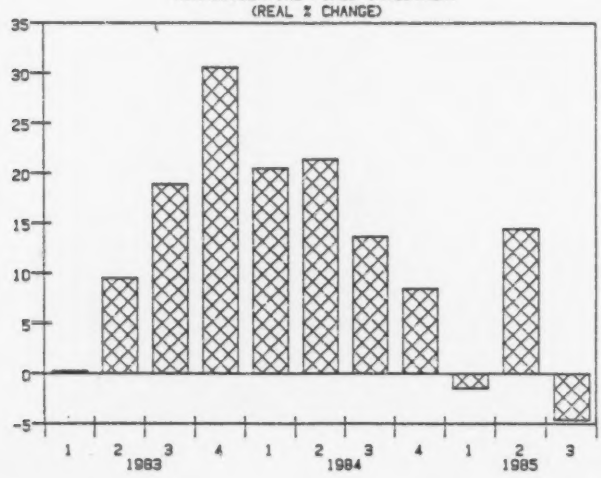
*Examples: A sharp real decline in capital spending was projected for 1983 by the survey taken in the fall of 1982, when the 1981-82 recession was still going. Fortunately, real spending only fell less than 1% in 1983. Real declines were also projected in 1975 and 1976, in the wake of the 1974-75 recession. Investment actually plunged in 1975, but rose in 1976.

Nevertheless, business chopped fixed investment in the third quarter at a hefty 4.6% annual rate after inflation.* And as Tables 2 and 3 show, cuts were not concentrated in one or two kinds of equipment or structures, but came

CHART 5
NONRESIDENTIAL FIXED INVESTMENT
(REAL % CHANGE)



across the board, from computers to metalworking machinery, from office buildings to hospital construction.

This cutback mode is showing up elsewhere, too, besides in capital spending. Many companies, for example, are reducing expenditures by laying off employees. Manufacturers, in particular, have been following this tack: Manufacturing employment has been falling on average since the beginning of the year (Chart 6). (Total employment continues to grow, thanks to trade and services, where wages are relatively low and increasing very little. In 1985, average weekly earnings of people employed in retail trade will be up 1% or less.) Many companies are also cutting advertising budgets.

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*Investment referred to here and shown in Chart 5 is a gross national product (GNP)measure of capital spending, differing somewhat from the measure projected by the survey, usually referred to as plant and equipment spending. The GNP measure is pictured because it is more up-to-date, and thus shows what businesses were doing at the time they filled out the survey.

Table 2. Producers Durable Equipment--Billion 1972 $

	1984		1985			Years	
	III	IV	I	II	III	83	84
General Industrial.....	5.090	4.828	4.905	5.167	4.928	4.242	4.871
% Change.....	29.3	-19.1	6.5	23.1	-17.3	-8.3	14.8
Metalworking.....	4.967	4.972	4.853	4.920	4.856	3.761	4.849
% Change.....	10.6	0.4	-9.2	5.6	-5.1	-10.2	28.9
Special Industrial.....	4.992	4.776	4.546	4.891	4.881	4.048	4.809
%Change.....	4.3	-16.2	-17.9	34.0	-0.8	7.1	18.8
Fabricated Metals.....	3.673	3.968	4.254	4.370	4.596	3.256	3.682
% Change.....	15.4	36.2	32.1	11.4	22.3	-0.2	13.1
Total Industrial Eq.	18.722	18.544	18.558	19.348	19.261	15.307	18.211
% Change.....	14.4	-3.7	0.3	18.1	-1.8	-3.5	19.0
Office/Store.....	40.747	41.708	38.825	42.911	39.712	32.103	39.449
% Change.....	27.3	9.8	-24.9	49.2	-26.6	18.5	22.9
Communication.....	17.143	18.299	18.097	18.194	18.293	14.323	16.610
% Change.....	40.9	29.8	-4.3	2.2	2.2	-1.7	16.0
Engineering Instruments	4.554	4.443	4.630	4.961	4.811	3.831	4.371
% Change.....	24.2	-9.4	17.9	31.8	-11.6	1.8	14.1
Photographic Eq.....	8.346	8.026	8.161	8.029	8.110	7.310	8.315
% Change.....	-23.4	-14.5	6.9	-6.3	4.1	-0.7	13.7
Total High-Tech.....	70.790	72.476	69.713	74.095	70.926	57.567	68.746
% Change.....	22.2	9.9	-14.4	27.6	-16.0	9.0	19.4
Autos.....	17.625	16.215	18.328	17.843	19.565	12.384	16.870
% Change.....	11.9	-28.4	63.2	-10.2	44.6	33.8	36.2
Trucks.....	13.037	14.151	13.460	13.326	13.271	8.488	12.731
% Change.....	6.8	38.8	-18.1	-3.9	-1.6	12.7	50.0
Motor Vehicles.....	30.662	30.366	31.788	31.169	32.836	20.872	29.601
% Change.....	9.7	-3.8	20.1	-7.6	23.2	24.3	41.8
Furniture.....	4.490	4.740	4.904	5.201	4.970	3.724	4.459
% Change.....	20.7	24.2	14.6	26.5	-16.6	8.6	19.7
Electrical.....	1.855	1.838	1.767	1.813	1.918	1.664	1.849
% Change.....	7.2	-3.6	-14.6	10.8	25.3	12.4	11.1
Other Commercial.....	2.971	2.989	3.189	3.323	3.049	2.753	3.032
% Change.....	-13.6	2.4	29.6	17.9	-29.1	2.0	10.1
Service.....	3.097	3.062	2.946	3.056	2.839	2.649	3.015
% Change.....	1.4	-4.4	-14.3	15.8	-25.5	3.3	13.8
Total Commercial....	12.413	12.629	12.806	13.393	12.776	10.790	12.355
% Change.....	4.6	7.1	5.7	19.6	-17.2	6.1	14.5
Railroad.....	1.126	1.007	0.965	1.080	1.284	0.773	1.023
% Change.....	53.3	-36.0	-15.7	56.9	99.8	-23.7	32.3
Aircraft.....	2.650	2.868	2.817	2.698	3.329	2.483	2.369
% Change.....	316.5	37.2	-6.9	-15.9	131.8	9.4	-4.6
Ships.....	0.670	0.784	0.644	0.611	0.602	0.616	0.641
% Change.....	68.6	87.5	-54.5	-19.0	-5.8	-44.2	4.1
Other Transportation	4.446	4.659	4.426	4.389	5.215	3.872	4.032
% Change.....	174.2	20.6	-18.6	-3.3	99.3	-11.7	4.1
Power.....	7.018	7.065	6.742	6.948	7.004	5.733	6.651
% Change.....	44.6	2.7	-17.1	12.8	3.3	0.2	16.0
Farm.....	3.113	3.380	2.969	3.288	3.199	3.350	3.312
% Change.....	-20.2	39.0	-40.5	50.4	-10.4	0.5	-1.1
Construction.....	2.377	2.384	2.357	2.463	2.455	1.800	2.314
% Change.....	-2.2	1.2	-4.5	19.2	-1.3	7.7	28.6
Mining & Oilfield.....	2.401	2.412	2.377	2.632	2.644	2.035	2.320
% Change.....	3.8	1.8	-5.7	50.3	1.8	-19.0	14.0
Total Equipment.....	052.396	154.415	152.193	158.164	156.780	121.792	148.011
% Change.....	18.6	5.4	-5.6	16.6	-3.5	7.3	21.5

Data are seasonally adjusted at an annual rate.

Table 3. Nonresidential Construction--Billion 1972$

	1984		1985			Years	
	III	IV	I	II	III	83	84
Industrial.....	5.869	6.153	6.060	6.411	5.942	5.507	5.917
% Change.....	-1.3	20.8	-5.9	25.3	-26.2	-27.7	7.4
Offices.....	10.840	11.987	12.644	12.718	12.319	8.889	10.877
% Change.....	4.6	49.5	23.8	2.4	-12.0	-12.2	22.4
Stores.....	9.615	10.565	11.277	11.227	11.016	6.430	9.431
% Change.....	6.2	45.8	29.8	-1.8	-7.3	2.8	46.7
Health Care.....	2.567	2.442	2.317	2.339	2.215	2.808	2.693
% Change.....	-36.4	-18.1	-19.0	3.9	-19.6	8.9	-4.1
Telephone.....	2.940	2.922	2.954	2.969	2.911	2.736	2.800
% Change.....	22.4	-2.4	4.5	2.0	-7.6	-14.8	2.3
Utilities.....	10.418	10.241	9.928	9.993	9.860	9.056	10.167
% Change.....	12.3	-6.6	-11.7	2.6	-5.2	-4.0	12.3
Oil & Gas Well Drilling	6.552	6.623	6.789	6.993	7.063	6.358	6.543
% Change.....	8.9	4.4	10.4	12.6	4.1	-11.3	2.9
Other.....	8.291	8.467	8.794	9.460	9.559	7.399	8.433
% Change.....	-10.8	8.8	16.4	33.9	4.3	6.4	14.0
Total Construction.....	57.092	59.400	60.763	62.110	60.885	49.183	56.860
% Change.....	2.0	17.2	9.5	9.2	-7.7	-7.8	15.6

Data are seasonally adjusted at an annual rate.

CHART 6

MANUFACTURING EMPLOYMENT
(MILLIONS OF JOBS)

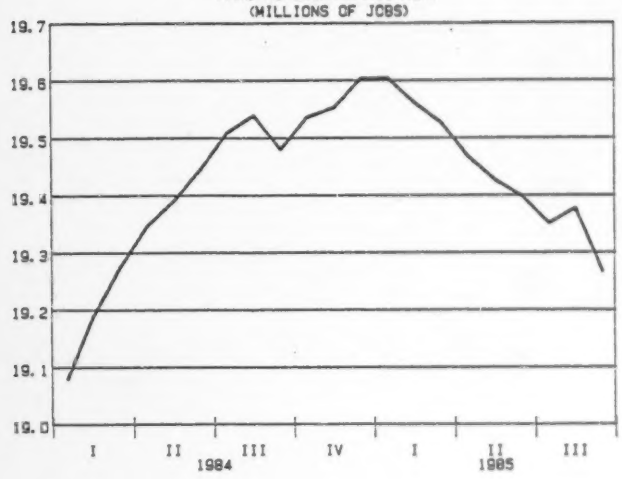


CHART 7

SURVEY PRICE CHANGE
VS DEFLATOR & PRODUCER PRICE INDEX

The general economic picture, then, is one of U.S. companies looking hard at current expenditures; the survey results fit right in with this picture, indicating that the hard looks are extending to 1986 capital budgets.

There are some mitigating factors, however. One is that even if the survey's nominal projection of a 1% cut in investment next year is accurate, it's unlikely that the inflation-adjusted projection will be as bad as the survey's 5.7% decline. That's because ever since inflation broke in 1982, the survey has been projecting price increases much higher than actually occurred (Chart 7). Hence, if capital goods inflation in 1986 is 2%-3% instead of the survey's 4.7%, a nominal 1% fall in spending would result in a real decline of 3% or 4%.

It's also possible that the economy could start looking better to companies if the dollar and interest rates keep heading down. In that case, spending plans could pick up and enter the positive zone next year.

Energy Powers Down

One reason for the projected 1986 stepdown in capital investment is that energy producers and distributors plan cutbacks, as shown in Chart 8 (where the latest point plotted is 1986) and in Table VIII. Within energy, electric utility and petroleum exploration and production (well drilling) expenditures are slated for slashing. Neither survey result is probably surprising; yet next year may not be as bad as currently projected.

CHART 8

CAPITAL SPENDING BY ENERGY INDUSTRIES
(BILLIONS OF $)

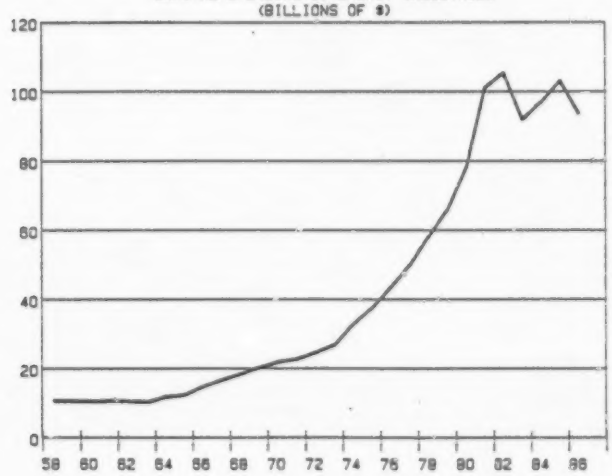
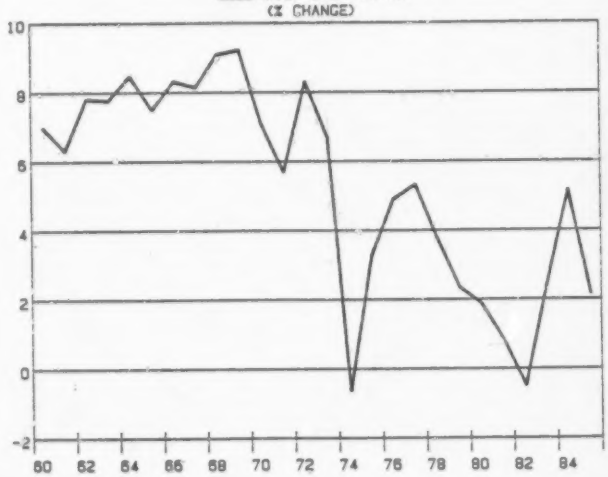


CHART 9

ELECTRIC POWER OUTPUT
(% CHANGE)

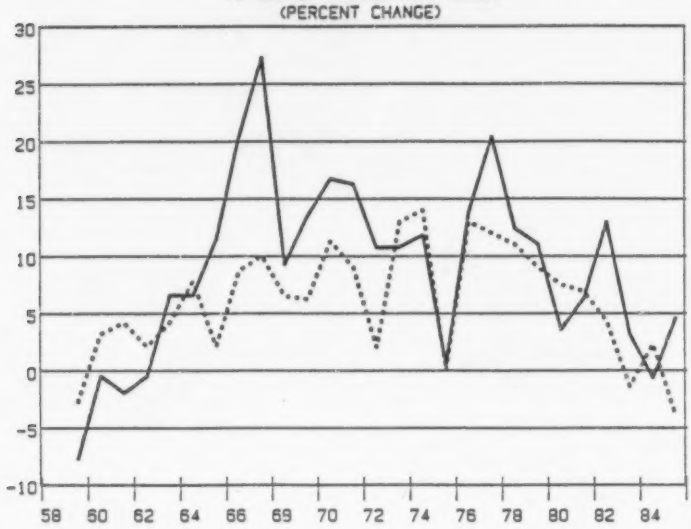


Electric utilities at present have excess capacity, face sluggish demand growth (Chart 9), and must contend with cost overruns on nuclear plants; in consequence, no new nuclear plants are on order, and relatively few plants of any sort are in the works. Capital expenditure prospects are thus certainly not good.

Yet the 15.5% plunge projected by the survey may be too pessimistic, judging by past performance. Chart 10 shows that the fall survey typically undershoots electric utility spending in the following year. The 1984 survey, for example, projected a small decline in electric utility expenditures; it now looks like spending will rise a little.

CHART 10

ELECTRIC UTILITY CAPITAL SPENDING (LINE)
VS SURVEY PROJECTION (DASH)
(PERCENT CHANGE)



In oil and gas well drilling, the pump primer is energy prices (Chart 11). So with energy prices on a slide, drilling should by rights also decline. But 1985 may turn out to be a surprise: The survey estimates a small increase in outlays this year; and a quarterly measure of drilling (Chart 12) also shows an increase this year. It's possible that lower drilling costs have stimulated activity; increasing certainty that tax reform will not affect drilling shelters in 1985 may have helped, too. If tax reform fades altogether

CHART 11

EXPLORATION & PRODUCTION (LINE)
& OIL PRICE (DASH)

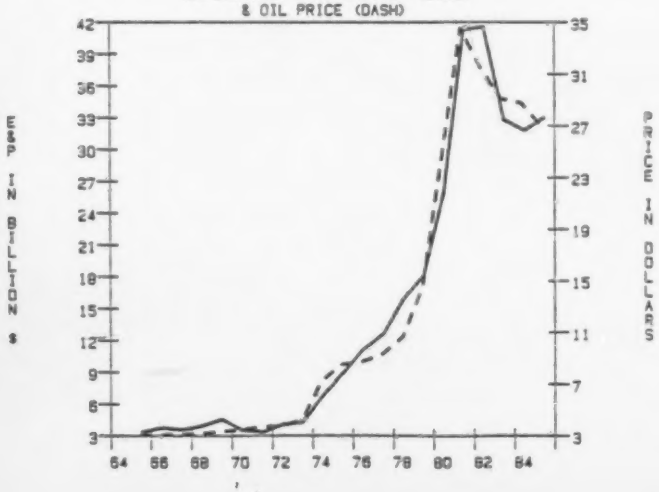
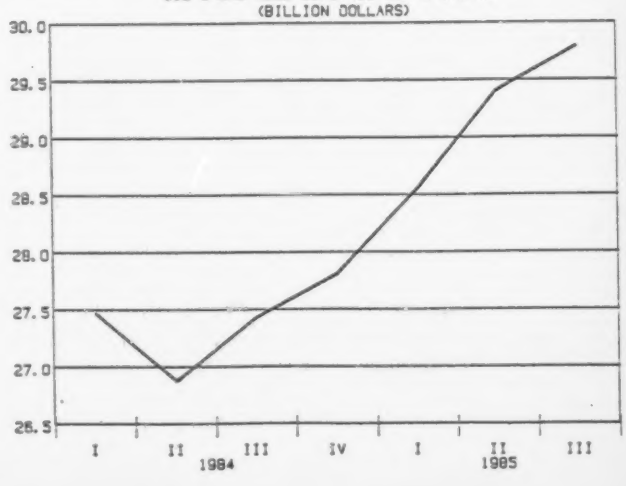


CHART 12

OIL & GAS WELL CONSTRUCTION SPENDING
(BILLION DOLLARS)



in 1986, if drilling costs fall some more, or if world events firm up the price of oil, exploration and production expenditures could rise beyond current projections.

At the same time, many independent drilling companies remain financially strapped and will have difficulty raising funds. These companies, categorized under mining in Table I, plan a sharp curtailment of activity in 1986.

Process Industries Tread Water

While on average not planning spending reductions next year, process industries are still hunkering down, intending to raise 1986 capital budgets by less than 1% (Table VII). This despite the fact that their factory operating rate is at a respectable level (Chart 13). The operating rate, however, has been drifting down in the past year. In addition, some of the process industries are losing markets to imports--textiles most obviously, but also chemicals and petrochemicals, paper and pulp, rubber and plastics, and nonferrous metals.

Imports notwithstanding, or in some cases to better compete against imports, companies in the paper and rubber/plastics industries plan the

CHART 13

OPERATING FOR PROCESS (LINE) & ALL MANUFACTURERS (DASH)

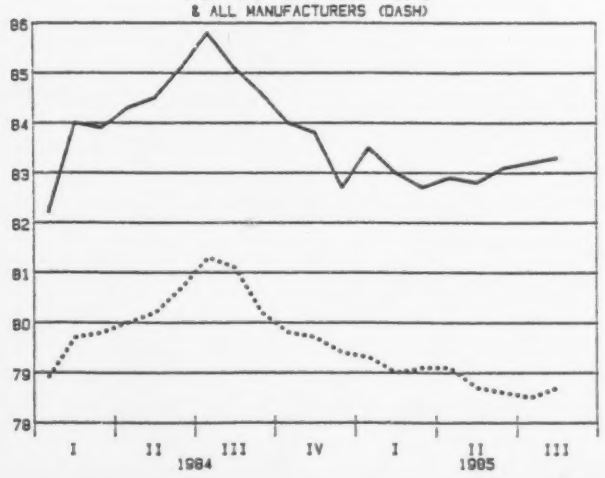
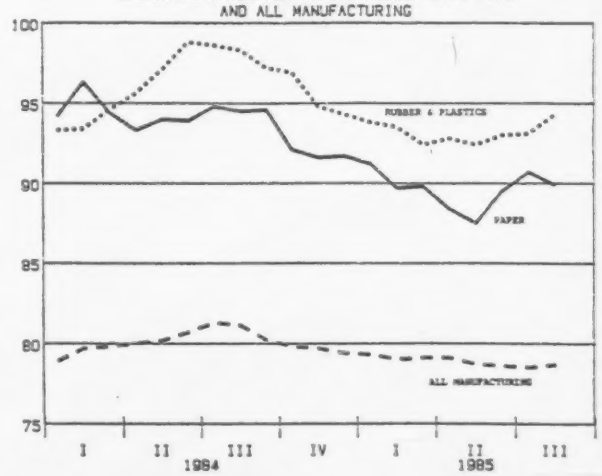


CHART 14

OPERATING RATES FOR PAPER, RUBBER & PLASTIC AND ALL MANUFACTURING



strongest 1986 capital spending gains among all industries, not just process industries. Despite slow growth in production in 1985, both industries still sport high operating rates (Chart 14). And in the case of paper, putting a new papermaking machine into operation is a long-term proposition, so that spending in 1986 would represent plans made when output growth was strong.

Prospects for the rest of the process group are not good. Excluding paper and pulp and rubber and plastics, the group plans a 2.5% cutback in 1986 capital outlays. The biggest process industry, chemicals, plans less than a 1% increase. Interestingly, industrial chemical makers are the only strong sector within chemicals, with producers of drugs, soaps and toiletries, paints, and agricultural chemicals all planning investment reductions (Table IX).

Durable Goods: A Hard Year Ahead

Among durable goods producing industries, the only 1986 spending strength--albeit modest--is in instruments (up 7.8%) and aerospace (up 6.8%). Compared with other manufacturing industries, both instruments and aerospace are performing well in 1985.

That goes especially for aerospace companies, which are enjoying the double whammy of vigorous demand from commercial as well as military markets. Shipments of aircraft and parts are consequently soaring 18% higher than in 1984. Orders, however, have slowed down, in part evidenced by airlines' weak spending plans for 1986. Reflecting both strong shipments and weakening orders, aerospace companies do plan an increase in plant and equipment expenditures next year, but only by 6.8%, well down from the boom increases of the two previous years (Chart 15).

Instruments makers, too, are enjoying a sales year better than most

CHART 15

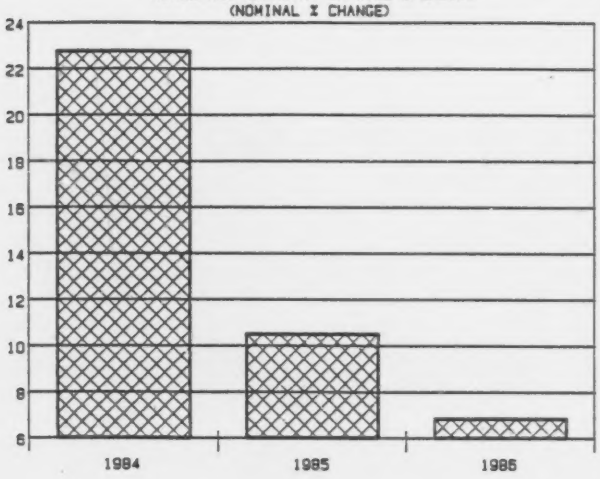
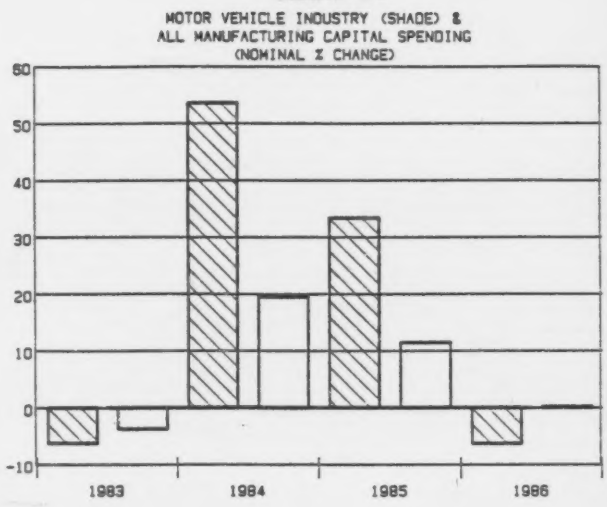


CHART 16



industries. (Industries current economic conditions are shown in Tables 4, 5, and 6.) In particular, makers of scientific and engineering instruments are scoring a 1985 sales gain of 14%, suggesting that many American companies (the instruments purchasers) are focusing strongly on modernization this year. New instruments orders--up 6%--are also doing much better than orders for most other manufactured products.

A major drag on durables' investment next year will be autos, according to the survey. Auto makers revved up capital spending tremendously in recent years, even compared with big increases in manufacturing overall (Chart 16). The recent spending surge was Detroit's answer to the import surge. By now, however, much of the leap to modern plants may be over, and auto firms may be settling down to a steadier pace of upgrading what they've already got in place.

Table 4. Durables Indicators

	1985			Years		
	I	II	III	82	83	84
Iron & Steel						
Operating Rate (%).	68.1	65.9	67.9	51.7	59.9	69.9
Shipments.....	51.360	53.072	NA	47.105	48.389	53.799
New Orders.....	52.600	53.172	NA	43.230	51.578	52.490
After-Tax Profits..	-1.108	-1.580	NA	-3.705	-3.746	-0.379
Nonferrous Metals						
Operating Rate (%).	92.0	89.1	89.9	66.7	75.8	91.0
Shipments.....	57.964	59.112	NA	49.446	57.820	62.268
New Orders.....	56.040	61.372	NA	48.181	59.945	61.304
After-Tax Profits..	0.048	-0.872	NA	-0.333	-0.288	-0.084
Electrical Machinery						
Operating Rate (%).	75.9	72.7	70.0	74.1	75.5	81.1
Shipments.....	182.184	180.236	NA	141.057	155.898	182.342
New Orders.....	193.232	182.100	NA	147.558	165.656	191.104
After-Tax Profits..	7.596	6.776	NA	6.449	6.367	8.616
Nonelectrical Machinery						
Operating Rates (%)	79.5	79.5	78.0	68.0	67.3	78.2
Shipments.....	208.816	216.652	NA	180.181	178.303	209.559
New Orders.....	218.136	208.624	NA	162.246	180.910	212.443
After-Tax Profits..	7.288	10.368	NA	8.038	7.680	11.963
Autos, Trucks & Parts						
Operating Rate (%).	87.8	85.9	88.5	59.1	73.0	85.4
Shipments.....	208.172	193.756	NA	112.339	152.825	192.333
After-Tax Profits..	8.808	11.492	NA	0.734	7.168	10.575
Aerospace						
Shipments.....	85.084	85.472	NA	63.522	70.770	76.750
New Orders.....	77.800	100.032	NA	67.462	81.492	92.862
After-Tax Profits..	3.888	4.020	NA	2.193	2.829	3.639
Fabricated Metals						
Operating Rate (%).	77.7	76.8	75.1	65.0	68.3	76.7
Shipments.....	160.608	165.508	NA	113.909	120.642	139.164
New Orders.....	159.256	161.904	NA	106.611	119.539	140.280
After-Tax Profits..	3.596	4.084	NA	2.320	2.693	4.646
Instruments						
Operating Rate (%).	80.7	79.4	78.4	77.5	77.1	80.7
Shipments.....	56.072	57.368	NA	46.834	47.892	53.482
New Orders.....	55.928	57.908	NA	46.644	48.576	54.153
After-Tax Profits..	4.108	4.416	NA	3.859	3.672	4.208
Stone, Clay & Glass						
Operating Rate (%).	78.1	79.7	79.2	66.5	73.7	80.6
Shipments.....	56.520	58.032	NA	44.019	49.010	54.981
New Orders.....	56.680	57.800	NA	43.395	49.314	55.455
After-Tax Profits..	0.452	2.352	NA	0.408	1.002	1.870

NOTE: Shipments and new orders (billions of dollars) are at seasonally adjusted annual rate. Profits are not seasonally adjusted. Operating rates in percent.

Table 5. Nondurables Indicators

	1985			Years		
	I	II	III	82	83	84
Chemicals						
Operating Rate...	78.5	78.3	77.9	68.8	74.7	78.0
Shipments.....	212.856	213.572	NA	172.591	190.727	211.804
After-Tax Profits	12.716	13.916	NA	10.324	11.644	13.883
Paper						
Operating Rate...	90.2	88.5	90.2	86.3	90.9	93.8
Shipments.....	97.024	97.400	NA	78.960	85.181	95.910
After-Tax Profits	2.872	3.496	NA	1.460	2.327	3.015
Rubber & Plastics						
Operating Rate...	93.2	92.6	93.9	79.5	88.3	96.1
Shipments.....	50.056	48.220	NA	50.097	50.350	52.151
After-Tax Profits	2.228	1.104	NA	1.170	1.891	2.333
Petroleum						
Operating Rate...	75.9	78.6	79.2	72.9	72.9	77.4
Shipments.....	187.772	198.168	NA	206.241	191.408	200.667
After-Tax Profits	16.780	7.780	NA	19.666	19.297	17.154
Food & Beverage						
Operating Rate...	72.6	72.9	72.5	75.8	75.0	74.1
Shipments.....	299.052	295.372	NA	277.265	286.541	295.091
After-Tax Profits	7.768	9.464	NA	8.383	9.436	9.760
Textiles						
Operating Rate...	81.9	84.4	86.2	77.4	87.7	85.0
Shipments.....	51.164	51.336	NA	47.159	52.203	55.054
After-Tax Profits	0.764	1.016	NA	0.851	1.599	1.635

NOTE: Shipments (billions of dollars) are at seasonally adjusted annual rate. Profits (billions of dollars) are not seasonally adjusted. Operating rates in percent.

Table 6. Nonmanufacturing Indicators

	1985			Years	
	I	II	III	83	84
Mining					
Bituminous Coal Production --Thousand net tons.....	212,677	227,792	222,066	194,501	222,940
Refiners' Acquisition Price of Oil--Dollars.....	26.63	26.73	26.72	28.87	28.53
Railroads					
Revenue Freight Ton-Miles --Billions of miles.....	220.3	229.5	NA	826.1	921.8
New Freight Cars, Unfilled Orders --Thousands of cars.....	4.2	4.1	NA	3.9	6.0
Airlines					
Passenger-Miles Revenue--Billions	73.5	NA	NA	69.3	74.6
Passenger Load Factor--%.....	59.7	NA	NA	60.6	59.1
Electric Utilities					
Electricity Output --Millions of kw-hr.....	620,561	586,400	NA	577,571	603,521
Electric Utility Revenues --Millions of $.....	36,427	36,174	NA	32,489	35,591
Gas Utilities					
Natural Gas Sales--Trillion btu..	4,929	2,535	NA	3,226	3,362
Gas Utility Revenues--Million $..	24,914	NA	NA	16,287	16,866
Communications					
Commercial Construction --Billions of 1972$, SAAR.....	24.12	24.15	23.53	15.45	20.48
Consumer Spending on Financial Ser --Billions of 1972$, SAAR.....	48.89	49.06	49.22	46.65	48.54
Trade & Services					
Retail Sales--Millions of $, SA..	1,339.7	1,375.9	1,406.7	1,171.4	1,293.9
Consumer Spending on Personal, Medical & Business Services --Billions of 1972$,SAAR.....	221.7	225.0	226.4	208.3	215.6

Conclusion

Given that the U.S. economy has been growing for three years, and continues to grow, it is surprising--even shocking--that the survey projects a decline in capital spending next year. Yet when current evidence is examined, that projection takes on validity. Some of that current evidence includes the third-quarter cut in investment and layoffs in manufacturing industries.

But while the survey's estimate of a small reduction in capital outlays may be accurate, it's estimate of 1986 capital goods inflation of 4.7% is probably too high, by about two percentage points. Hence the "real" projected decline is not quite as bad as the survey says.

Nonetheless, these are gloomy results, especially because they are widespread among many industries. It's possible, however, that electric utility spending will be significantly better than currently projected, and that other energy areas could do better. Yet at best, it appears that capital investment will be sluggish, putting pressure on other sectors of the economy to perform well to keep the U.S. out of recession in 1986.

Technical Notes on the Survey

Results in this report are based on the responses of 540 firms to a survey taken in September and October. These firms account for 30% of capital spending in the country (Table X). For capital spending (Tables I and V to IX), firms supplied dollar estimates of future plant and equipment expenditures. Estimates for each year were summed by industry, and percentage changes between years were calculated.

Each industry's percentage change for 1984-85, derived from the

sample firms, was then applied to the industry's total capital spending in 1984 in order to derive the industry's total estimated capital spending in 1985. The 1985-86 percentage change was applied to the estimated 1985 total industry figure to derive the industry's total estimated 1986 capital spending. The procedure was the same for 1987. Firms with extreme percent changes in spending (outliers) were removed from the sample on a year-by-year basis.

The source of the actual 1984 capital spending is the U.S. Department of Commerce. Once each industry's total estimated capital spending was derived, the figures were summed to derive estimates for the various aggregate groupings--durables, nondurables, all manufacturing, all nonmanufacturing and all business.

All data presented in this report other than the capital spending figures are based on percentage--rather than dollar--answers supplied by the sample firms. Percentage responses were weighted by size of firm within an industry to derive industry figures. Figures for the aggregates were then derived by weighting each industry by size. The weights used were each industry's 1984 capital spending.

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NOTE: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, construction companies, and personal and business services. Other transportation consists primarily of trucking companies.

TABLE I

PLANS FOR CAPITAL SPENDING
(Billions of Dollars)

Industry	1984 ACTUAL	1985 ESTIMATE	1986 PLANNED	1985-86 % CHANGE	1987 PLANNED	1986-87 % CHANGE
Iron & Steel	3.54	3.53	3.41	-3.3	4.93	44.3
Nonferrous Metals	2.13	1.96	2.02	2.9	2.03	0.7
Electrical Machinery	14.61	15.50	15.69	1.2	17.35	10.6
Non-Electrical Machinery	15.41	16.50	16.34	-1.0	15.50	-5.1
Autos,Trucks & Parts	11.20	14.93	13.99	-6.3	13.28	-5.1
Aerospace	3.57	3.95	4.22	6.8	4.99	-4.3
Fabricated Metals	3.44	3.75	3.85	2.6	3.79	-1.6
Instruments	3.28	3.72	4.01	7.8	4.41	10.0
Stone,Clay & Glass	3.09	3.62	3.27	-9.6	3.03	-7.4
Other Durables	5.98	7.57	6.63	-12.4	7.43	12.1
TOTAL DURABLES	66.24	75.03	73.42	-2.1	75.78	3.2
Chemicals	15.32	16.99	17.13	0.8	18.33	7.0
Paper & Pulp	7.21	7.82	8.58	9.7	7.74	-9.8
Rubber & Plastic	3.11	3.53	4.17	18.0	4.64	11.4
Petroleum	25.53	27.51	27.65	0.5	28.15	1.8
Food & Beverage	8.82	10.54	10.81	2.6	10.80	-0.1
Textiles	1.92	1.66	1.51	-8.9	1.51	-0.4
Other Nondurables	10.68	11.63	11.71	0.7	10.10	-13.8
TOTAL NONDURABLES	72.58	79.68	81.56	2.4	81.26	-0.4
ALL MANUFACTURING	138.82	154.71	154.98	0.2	157.04	1.3
Mining	16.86	16.38	13.22	-19.3	14.75	11.6
Railroads	6.79	7.40	7.67	3.7	7.74	0.8
Airlines	3.56	5.07	5.02	-0.9	4.34	-13.6
Other Transportation	6.17	6.48	6.10	-5.9	6.55	7.4
Electric Utilities	37.03	36.72	31.03	-15.5	28.05	-9.6
Gas Utilities	10.44	12.11	12.80	5.7	13.98	9.2
Communications	27.21	31.01	31.72	2.3	30.58	-3.6
Trade & Services	107.54	114.49	118.15	3.2	117.84	-0.3
ALL NONMANUFACTURING	215.61	229.66	225.71	-1.7	223.83	-0.8
ALL BUSINESS	354.44	384.37	380.69	-1.0	380.87	0.0

TABLE II

INFLATION EXPECTATIONS
(Percentage Change)

Industry	Expected % Change, 1985-86	
	Plant & Equpment Prices	Product Prices
Iron & Steel	5.0	-0.7
Nonferrous Metals	4.5	3.8
Electrical Machinery	5.6	3.1
Non-Electrical Machinery	3.6	4.0
Autos,Trucks & Parts	5.1	0.0
Aerospace	3.7	2.3
Fabricated Metals	4.5	2.7
Instruments	4.3	2.7
Stone,Clay & Glass	4.7	4.0
Other Durables	4.8	4.3
TOTAL DURABLES	4.6	2.7
Chemicals	4.0	2.6
Paper & Pulp	4.6	6.9
Rubber & Plastic	3.7	2.8
Petroleum	3.7	0.1
Food & Beverage	4.0	2.0
Textiles	4.8	0.8
Other Nondurables	3.9	5.3
TOTAL NONDURABLES	3.9	2.8
ALL MANUFACTURING	4.3	2.7
Mining	5.8	0.3
Railroads	4.3	1.1
Airlines	5.3	NA
Other Transportation	4.8	3.0
Electric Utilities	5.5	4.5
Gas Utilities	4.7	2.8
Communications	4.6	7.3
Trade & Services	5.0	5.4
ALL NONMANUFACTURING	5.0	4.8
ALL BUSINESS	4.7	4.0

TABLE III

SALES EXPECTATIONS
(Billions of Dollars)

Industry	1985 ESTIMATED	1986 EXPECTED	1985-86 % CHANGE
Iron & Steel	53.7	56.9	5.9
Nonferrous Metals	60.0	62.4	4.1
Electrical Machinery	180.2	200.5	11.2
Non-Electrical Machinery	209.6	217.0	3.5
Autos,Trucks & Parts	202.0	204.3	1.1
Aerospace	85.2	96.7	13.5
Fabricated Metals	165.8	177.0	6.7
Instruments	55.7	63.1	13.3
Stone,Clay & Glass	57.0	61.0	7.1
Other Durables	148.1	152.0	2.6
TOTAL DURABLES	1,217.4	1,290.8	6.0
Chemicals	216.7	233.3	7.7
Paper & Pulp	97.9	104.3	6.6
Rubber & Plastic	48.6	50.6	4.1
Petroleum	191.9	191.2	-0.4
Food & Beverage	293.4	313.2	6.7
Textiles	51.2	52.7	3.0
Other Nondurables	188.8	212.3	12.5
TOTAL NONDURABLES	1,088.5	1,157.7	6.4
ALL MANUFACTURING	2,305.9	2,448.6	6.2
Mining	NA	NA	2.7
Railroads	NA	NA	2.9
Airlines	NA	NA	NA
Other Transportation	NA	NA	6.4
Electric Utilities	NA	NA	5.7
Gas Utilities	NA	NA	0.4
Communications	NA	NA	5.8
Trade & Services	NA	NA	7.6

TABLE IV

REAL SALES EXPECTATIONS
(Billions of 1985 Dollars)

Industry	1985 ESTIMATED	1986 EXPECTED	1985-86 % CHANGE
Iron & Steel	53.7	57.3	6.7
Nonferrous Metals	60.0	60.1	0.2
Electrical Machinery	180.2	194.4	7.9
Non-Electrical Machinery	209.6	208.6	-0.5
Autos,Trucks & Parts	202.0	204.2	1.1
Aerospace	85.2	94.6	11.0
Fabricated Metals	165.8	172.4	4.0
Instruments	55.7	61.4	10.3
Stone,Clay & Glass	57.0	58.7	3.0
Other Durables	148.1	145.8	-1.6
TOTAL DURABLES	1,217.4	1,257.4	3.3
Chemicals	216.7	227.4	4.9
Paper & Pulp	97.9	97.6	-0.3
Rubber & Plastic	48.6	49.2	1.3
Petroleum	191.9	191.0	-0.5
Food & Beverage	293.4	307.1	4.7
Textiles	51.2	52.3	2.1
Other Nondurables	188.8	201.7	6.8
TOTAL NONDURABLES	1,088.5	1,126.3	3.5
ALL MANUFACTURING	2,305.9	2,383.7	3.4
Mining	NA	NA	2.3
Railroads	NA	NA	1.8
Airlines	NA	NA	NA
Other Transportation	NA	NA	3.2
Electric Utilities	NA	NA	1.1
Gas Utilities	NA	NA	-2.4
Communications	NA	NA	-1.4
Trade & Services	NA	NA	2.0

TABLE V

CAPITAL SPENDING PLANS OF THE PETROLEUM INDUSTRY
(Millions of Dollars)

FUNCTION	1984 ACTUAL	1985 ESTIMATE	1986 PLANNED	1985-86 % CHANGE	1987 PLANNED	1986-87 % CHANGE
Exploration and Production	31,821	33,045	28,531	-13.7	31,575	10.7
Transportation (1)	3,504	3,795	5,158	35.9	2,199	-57.4
Refining	3,031	3,376	3,050	-9.6	2,746	-10.0
Petrochemicals	632	940	711	-24.3	757	6.4
Marketing	3,060	3,667	3,949	7.7	3,971	0.6
Other (2)	4,263	4,442	4,011	-9.7	2,757	-31.3
TOTAL	46,311	49,264	45,411	-7.8	44,004	-3.1

Notes:
(1) Includes oil pipelines; does not include gas pipeline.
(2) Includes coal mining.

TABLE VI

CAPITAL SPENDING PLANS OF THE MINING INDUSTRY
(Millions of Dollars)

INDUSTRY	1984 ACTUAL	1985 ESTIMATE	1986 PLANNED	1985-86 % CHANGE	1987 PLANNED	1986-87 % CHANGE
Coal	3,150	3,349	3,055	-8.8	3,879	27.0
Iron Ore	75	75	131	74.5	95	-27.9
Nonferrous	943	1,231	1,383	12.3	1,887	36.5
Nonmetallic	992	867	820	-5.4	841	2.5
MINING INDUSTRY	5,160	5,523	5,389	-2.4	6,702	24.4

TABLE VII

Capital Spending in the Chemical Process Industry
(Billions of Dollars)

Industry	1984 Actual	1985 Estimated	1986 Planned	1987 Planned
Chemicals	15.32	16.99	17.13	18.33
Petrochemicals	0.63	0.94	0.71	0.76
Paper & Pulp	7.21	7.43	8.15	7.35
Rubber & Plastics	3.11	2.20	2.60	2.89
Stone, Clay, Glass	3.09	3.89	3.51	3.25
Petroleum Refining	3.03	3.38	3.05	2.75
Nonferrous Metals	2.13	1.92	1.98	1.99
Coal Products	0.73	0.78	0.71	0.90
Food & Beverages	2.38	2.96	3.04	3.03
Textiles	0.38	0.29	0.21	0.21
Other CPI	1.24	1.29	1.30	1.12
Total CPI	39.26	42.07	42.37	42.58

Components may not add to total due to rounding.

Petrochemical expenditures are for the petroleum industry alone.

TABLE VII

Capital Spending Plans for the Energy Industries
(Millions of Dollars)

Industry	1984 Actual	1985 Estimated	1986 Planned	1987 Planned
Coal Mining*	3,150	3,349	3,055	3,879
Electric Utilities	37,030	38,728	32,715	29,579
Gas Utilities	10,440	11,669	12,337	13,471
Petroleum Industry	46,311	49,264	45,411	44,004
Exploration & Production	31,821	33,045	28,531	31,575
Transportation	3,504	3,795	5,158	2,199
Refining	3,031	3,376	3,050	2,746
Petrochemicals	632	940	711	757
Marketing	3,060	3,667	3,949	3,971
Other*	4,263	4,442	4,011	2,757
Total Energy Industries	96,931	103,010	93,518	90,934
Total All Industry	354,440	384,370	380,690	380,870
% Energy Industry Investment of Total	27.3	26.8	24.6	23.9

*There is some duplication of investment in other petroleum and coal mining.

TABLE IX

DETAILED INDUSTRY TREND DATA
FROM SPRING SURVEY

Industry	Capital Spending Plans-% Change		
	1984-85	1985-86	1986-87
Oil & Gas Extraction	8.6	-37.5	13.2
Oil Well Services	10.1	-42.5	13.8
General Building Contractors	82.9	6.5	7.4
Meat Products	6.6	40.2	11.1
Preserved Fruits and Vegetables	15.7	25.3	-5.1
Grain Mill Products	20.0	-27.5	-15.1
Beverages	18.3	-0.7	9.5
Tobacco	-0.5	2.1	0.2
Weaving Mills, Cotton	-21.3	-28.3	-0.9
Knitting Mills	-15.2	31.0	9.1
Apparel	4.2	5.8	2.3
Lumber	51.3	-19.6	19.4
Furniture	3.9	6.3	1.5
Printing and Publishing	9.7	-0.5	-22.0
Converted Paper Prod.	-53.3	-34.3	118.4
Industrial Chemicals	3.6	23.5	0.3
Drugs	-8.5	-5.4	14.5
Soap, Cleaners, & Toilet Goods	2.6	-53.4	14.7
Paints	15.4	-5.6	5.9
Agricultural Chemicals	95.7	-25.4	4.1
Misc. Chemicals	1.3	5.2	10.9
Miscellaneous Plastics Products	-14.1	-26.6	4.6
Leather	-32.0	43.4	4.6

TABLE IX (Cont.)

DETAILED INDUSTRY TREND DATA
FROM SPRING SURVEY

Industry	Capital Spending Plans-% Change		
	1984-85	1985-86	1986-87
Products of Purchased Glass	23.0	-0.7	-8.7
Cement, Hydraulic	1.3	-5.4	12.6
Structural Clay Products	34.9	-3.1	-3.8
Concrete, Gypsum, Plaster	76.6	-46.8	-7.1
Misc. Nonmetallic Mineral Products	8.1	8.3	6.2
Primary Nonferrous Metals	-0.2	4.1	4.2
Nonferrous Rolling and Drawing	-31.0	-1.4	0.0
Metal Cans	30.5	-5.8	-2.2
Cutlery, Hand Tools, Hardware	24.9	24.2	-3.4
Fabricated Structural Metal	45.0	-56.6	0.8
Screw Machine Products	29.1	0.2	-22.2
Misc. Fabricated Metals	14.3	-12.1	4.5
Farm Equipment	61.7	4.5	6.8
Construction, Mining, Materials Handling Eq.	31.8	23.9	-25.7
Metalworking Machinery	43.3	11.3	11.0
Special Industry Machinery	279.2	14.9	2.9
General Industrial Machinery	25.1	-16.2	3.1
Office, Computing Machinery	15.4	11.6	-3.4
Refrigeration and Service Industry Machinery	-23.9	2.6	-16.5
Electrical Industrial Apparatus	-26.1	-41.2	20.0
Household Appliances	1.5	-0.7	-5.0
Electric Lighting and Wiring	22.3	-12.0	-12.2
Communication Equipment	2.2	3.1	10.2
Electronic Components	-11.1	-11.9	32.3
Misc. Electrical	-32.6	4.3	14.4
Engineering & Scientific Instruments	-20.6	13.0	-1.8
Medical Instruments and Supplies	11.0	10.4	-50.0
Miscellaneous Manufacturing	62.1	-10.7	-17.0

TABLE IX (Cont.)

DETAILED INDUSTRY TREND DATA
FROM SPRING SURVEY

Industry	Capital Spending Plans-% Change		
	1984-85	1985-86	1986-87
Trucking and Warehousing	11.9	-36.0	10.3
Telephone Communications	11.4	1.9	-3.0
Hardware, Plumbing Eq.--Whole	30.7	3.4	6.7
General Merchandise Stores	-9.2	4.6	-0.4
Farm Product Raw Mat.	3.8	11.1	5.0
Retail and Whole. Trade	-5.6	4.9	1.4
Insurance Carriers	8.3	29.1	-28.4
Finance	27.9	14.6	6.6
Hotels and Motels	71.8	-37.3	-47.2
Computer and Data Processing Services	-8.3	-10.0	10.0
Miscellaneous Business Services	32.1	-26.0	-7.5
Amusement & Recreations Services	144.3	107.3	-84.2
Educational Services	-30.7	14.5	-11.9
Miscellaneous Professional Services	50.5	-13.8	60.5
Personal & Business Services	36.6	-12.9	-38.0
Health Services	2.7	-0.5	23.3

TABLE X

SURVEY SAMPLE SIZE

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	16.4
Nonferrous Metals	41.6
Electrical Machinery	64.7
Non-Electrical Machinery	28.6
Autos,Trucks & Parts	69.1
Aerospace	70.6
Fabricated Metals	12.6
Instruments	39.7
Stone,Clay & Glass	22.8
Other Durables	12.6
TOTAL DURABLES	43.5
Chemicals	17.2
Paper & Pulp	23.3
Rubber & Plastic	12.1
Petroleum	64.7
Food & Beverage	17.7
Textiles	19.7
Other Nondurables	8.7
TOTAL NONDURABLES	33.2
ALL MANUFACTURING	38.1
Mining	8.6
Railroads	50.2
Airlines	31.0
Other Transportation	20.4
Electric Utilities	48.2
Gas Utilities	18.6
Communications	88.5
Trade & Services	3.5
ALL NONMANUFACTURING	25.4
ALL BUSINESS	30.4

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GENERAL

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PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1985-87

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only. The survey applies to nonmanufacturing as well as manufacturing companies, and covers expenditures in areas such as computers, office furniture, office construction and oil well drilling as well as industrial purchases of items like machine tools.

1. How much did your company spend on plant and equipment in the United States in 1984 and how much does it plan to spend (including inflation) in 1985, 1986, and 1987? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1984, please report spending on a comparable basis for all years.)

1984	1985	1986	1987
$	$	$	$

If the answers above omit 000s or 000,000s please indicate:_____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1986 vs. 1985? _____%

If company policy prevents you from answering the following questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase (decrease) in 1986 vs. 1985? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1986 vs. 1985? _____%

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AUTO

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Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1984 and how much does it plan to spend (including inflation) in 1985, 1986, and 1987? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. Include special tools. If your company has merged with another since 1984, please report spending on a comparable basis for all years.)

1984	1985	1986	1987
$	$	$	$

If the answers above omit 000s or 000,000s please indicate:_____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1986 vs. 1985? _____%

If company policy prevents you from answering the following two questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase (decrease) in 1986 vs. 1985? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1986 vs. 1985? _____%

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CHEMICALS

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New York, NY 10020

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1985-87

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1984 and how much does it plan to spend (including inflation) in 1985, 1986, and 1987? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1984, please report spending on a comparable basis for all years.)

1984	1985	1986	1987
$	$	$	$

a. Please indicate the division between:

	----1984-----	----1985-----	----1986-----	-----1987-----
Manufacturing	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate:_____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1986 vs. 1985? _____%

If company policy prevents you from answering the following two questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase (decrease) in 1986 vs. 1985? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1986 vs. 1985? _____%

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IRON & STEEL

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1985-87

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1984 and how much does it plan to spend (including inflation) in 1985, 1986, and 1987? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1984, please report spending on a comparable basis for all years.)

1984	1985	1986	1987
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under iron mining, please include beneficiation.)

	----1984-----	----1985-----	----1986-----	-----1987-----
Manufacturing	$_____	$_____	$_____	$_____
Iron Mining	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate:_____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1986 vs. 1985? _____%

If company policy prevents you from answering the following two questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase (decrease) in 1986 vs. 1985? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1986 vs. 1985? _____%

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MINING

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1985-87

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1984 and how much does it plan to spend (including inflation) in 1985, 1986, and 1987? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1984, please report spending on comparable basis for all years.)

1984	1985	1986	1987
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under mining, please include all mineral processing.)

	----1984-----	----1985-----	----1986-----	-----1987-----
Manufacturing	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Nonferrous Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate:_____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1986 vs 1985? _____%

If company policy prevents you from answering the following two questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase (decrease) in 1986 vs. 1985? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1986 vs. 1985? _____%

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NONFERROUS METALS

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PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1985-87

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1984 and how much does it plan to spend (including inflation) in 1985, 1986, and 1987? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company has merged with another since 1984, please report spending on a comparable basis for all years.)

1984	1985	1986	1987
$	$	$	$

a. If your operations include both manufacturing and mining, how much is for each of the following? (Under mining, please include all operations including smelting and refining.)

	----1984-----	----1985-----	----1986-----	-----1987-----
Manufacturing	$_____	$_____	$_____	$_____
Nonferrous Mining	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate:_____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1986 vs. 1985? _____%

If company policy prevents you from answering the following two questions, please skip them and return the questionnaire.

3. By what percent does your company expect its sales, in dollar terms, to increase (decrease) in 1986 vs. 1985? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1986 vs. 1985? _____%

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PETROLEUM

PRELIMINARY SURVEY OF BUSINESS' PLANS FOR NEW PLANTS & EQUIPMENT 1985-87

Please fill in all blanks. If your answer is zero, please write in "0." If your answer is "not applicable" or "not available," please write in "NA." All questions refer to U.S. only.

1. How much did your company spend on plant and equipment in the United States in 1984 and how much does it plan to spend (including inflation) in 1985, 1986, and 1987? (Please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Include value of plant and equipment leased to others. Do not include acquisitions or value of plant and equipment leased from others. If your company merged with another since 1984, please report spending on a comparable basis for all years.)

1984	1985	1986	1987
$	$	$	$

a. Please indicate the division between:

	----1984-----	----1985-----	----1986-----	-----1987-----
Exploration & Production	$_____	$_____	$_____	$_____
Refining	$_____	$_____	$_____	$_____
Petrochemicals	$_____	$_____	$_____	$_____
Transportation	$_____	$_____	$_____	$_____
Marketing	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Other (Please Specify)	$_____	$_____	$_____	$_____

If the answers above omit 000s or 000,000s please indicate:_____

b. How many net wells (i.e., sum of financial interest of gross wells in which you participate) did (will) you drill in 1984-86 in search of oil and gas? 1984 _____
1985 _____
1986 _____

2. By what percent, on average, do you think the prices you pay for plants and equipment will increase (decrease) in 1986 vs. 1985? _____%

3. By what percent does your company expect its sales, in dollar terms, to increase (decrease) in 1986 vs. 1985? _____%

4. By what percent, on average, do you expect the prices your company charges for its products or services to increase (decrease) in 1986 vs. 1985? _____%

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McGraw-Hill Economics

1221 Avenue of the Americas, 37th Floor
New York, New York 10020

May, 1986

39th ANNUAL McGRAW-HILL SPRING SURVEY OF BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT, 1986-88

The oil price slide is taking its toll on U.S. investment.

Businesses now plan to cut 1986 capital spending in the U.S. by 0.5% to $384.5 billion (Table I*). In contrast, in a similar McGraw-Hill survey taken a few months earlier, companies reported plans to raise 1986 spending by 3.4%.

Key cause of the capital spending cut: slashed budgets at oil companies, in turn caused by plummeting petroleum prices.

Outside of oil, however, the picture is also weak. Excluding capital outlays for oil and gas exploration and production, investment by the rest of U.S. business is slated to rise only 2% in 1986 unadjusted for inflation.

These are key findings of the latest McGraw-Hill survey of businesses' plans to buy new plant and equipment. The survey was conducted in March and April, and reflects responses from nearly 500 companies that account for 24% of capital investment in the U.S. (Table IX). Figures in this report are adjusted to represent spending by all companies in the U.S.

Respondents said they thought capital goods prices would rise 3.7% this year (Table VIII). If both the spending and price projections materialize, "real" capital spending would decline about 4% in 1986.

*Tables denoted by Roman numerals appear in the back of this report. Following the tables is a chartbook showing history and survey projections of all major industries covered by the survey.

The survey's outlook on 1986 is not all glum, however. Most industries expect inflation-adjusted sales to rise at a healthy pace; overall manufacturing projects a strong 5% spurt in real sales (Table VI).

On the other hand, the share of manufacturing's capital outlays going for expansion is at its lowest level on record (Table II). In keeping with this projection, manufacturers say they intend to increase physical capacity this year less than 2% (Table IV).

All told, the survey paints a picture of a sluggish economy that does not warrant boosts in plant and equipment investment. Judging from sales expectations reported in the survey, companies are looking for improvement in business as 1986 proceeds. But future capital spending budgets do not yet reflect such confidence. The survey found that firms plan another small cut in spending in 1987 followed by a small increase in 1988 (Table I). Plans beyond the current year, however, are very tentative, and should not be given too much weight at present.

Capital Spending's Energy Crunch

While falling oil prices bode well for the economy in general, their immediate impact on capital spending in particular is highly negative. Integrated petroleum companies and refiners (categorized under nondurables manufacturing in Table I) now plan to slash capital budgets 23% in 1986. Last winter when McGraw-Hill took its previous capital spending survey, these companies reported that 1986 spending would be about the same as in 1985. Although crude oil prices had been falling at the time the last survey was taken, large oil companies had not as yet firmed up changes in their plans.

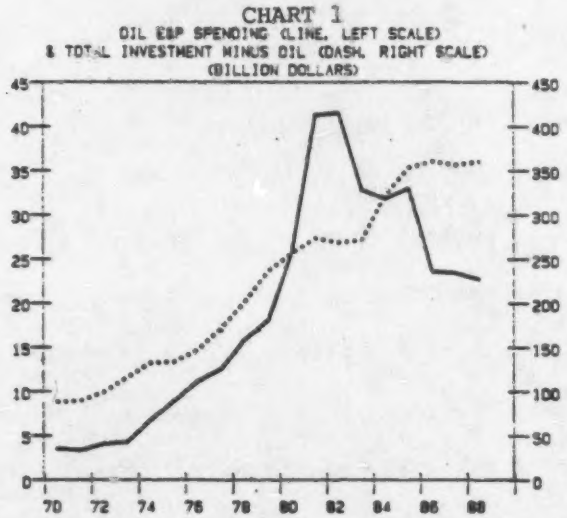
The sharp decline in petroleum spending in response to plunging oil prices is the biggest difference between the current survey and earlier ones. Excluding petroleum companies, the winter survey would have showed a planned

3.6% rise in total capital spending in 1986 rather than the reported 3.4%; the current survey would show a 1.2% rise rather than a 0.5% decline.

Falling oil prices also affect capital expenditures in the mining category in Table I. Mining in that table includes independent oil well drillers and oil service companies, as well as coal, iron ore, nonferrous, and nonmetallic mining.* Mining companies involved in oil and gas extraction alone reported a 35% cut in capital spending in 1986 (Table XIV). If all of mining as well as petroleum were excluded from the data, planned total capital spending this year would be up 1.8%.

Within petroleum, the area of investment hit most directly by falling oil prices is exploration and production. Table X, capital spending by function in the oil industry, combines projections of both integrated and independent companies. It shows that total U.S. outlays for oil and gas exploration and production are slated to plummet 28.5% this year to $23.6 billion. Hence

CHART 1



* Integrated petroleum companies and refiners included in nondurables manufacturing are classified in Standard Industrial Classification (SIC) code 29. Other oil-patch companies such as independent drillers are included in SIC 13, a mining classification. Mining also includes SICs 10,11,12, and 14.

reduced oil company drilling will probably be the biggest negative force in overall capital investment in 1986. As shown in Chart 1, this development reverses the role oil has played in U.S. investment since OPEC I in 1973-74.

Elsewhere in energy (Table XI), companies with coal operations (including oil companies) expect to raise investment in coal by 2%. This increase is surprising given that coal prices will likely drop to stay competitive with oil, reducing profits and investable funds for coal. Not surprisingly, electric utilities continue to project declines in capital outlays through 1988. These reductions reflect anticipated slow growth in electricity demand and excess capacity. (Utilities themselves project long-term electricity demand growth of only about 2% per year, according to the North American Electric Reliability Council, down from projections of 5% made in the late 1970s.)

Gas utilities, in contrast, continue to report ambitious increases in plant and equipment expenditures. With gas companies striving to stay competitive by cutting prices, however, some spending plans are likely to be shelved.

But Energy Isn't the Whole Story

As noted earlier, even without the weak petroleum and mining sectors, capital investment in the U.S. this year is projected to rise only 1.8% before adjustment for inflation. And expected inflation in the survey registered 3.7%.

In recent years, however, the survey has overestimated capital goods inflation by a significant margin, and the same is likely to be true this year. More realistic is the respondents' estimate that the prices they charge for their own products will rise only 1.4% this year (Table VIII). Yet even

combining inflation of 1.4% with a nominal spending rise of 1.8% produces practically no real increase at all in 1986 capital investment.

These lackluster prospects for plant and equipment spending outside of oil cannot be traced to any one particular industry. Weakness shows up in both manufacturing and nonmanufacturing, and in both durables and nondurables manufacturing.

There are, though, some glaring negatives. Take electrical machinery, an industry where capital spending has surged for much of the past decade. Recently, growth has slowed sharply, especially in the large and capital-intensive semiconductor industry. While there are signs of a semiconductor pickup, a key customer--computers--is facing a difficult year. Reflecting past and anticipated problems, makers of electronic components plan to slash capital outlays this year by 41% (Table XIV.)

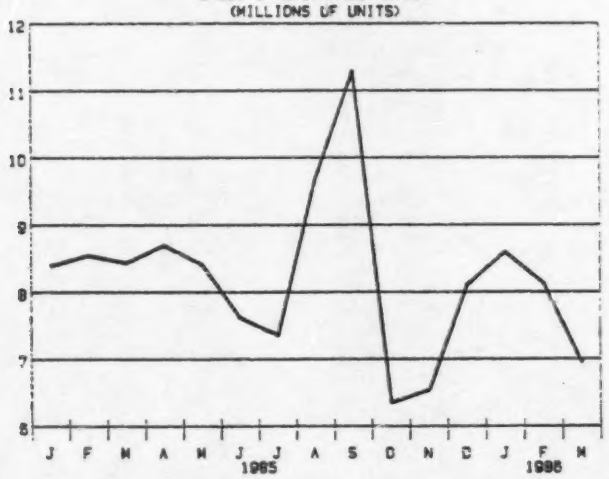
Of late, producers of communications equipment have also encountered weakening demand, and they plan to trim capital spending by 3%. Producers of electric transmission and distribution equipment also plan cuts as their prime customers--electric utilities--pare purchases. Within electrical machinery, only makers of electrical industrial apparatus, whose products are used in increasing plant efficiency, plan to raise investment this year by very much. All told, the electrical machinery industry plans to slash capital budgets this year by nearly 14%.

Another major negative is railroads, which project an investment decline of 11.6% in 1986. Since last fall, railroads have been gradually reducing their budgets for 1986. One reason might be increasing pessimism over U.S. farm exports, which continue to suffer despite sharp declines in the dollar. Another reason could simply be the sluggishness of the economy, particularly in industrial production and electricity demand, affecting the transportation of important commodities such as chemicals and coal.

In addition to projected declines in spending, in a couple of important cases increases have been revised down since last winter. A few months ago, makers of autos, trucks, and parts projected more than an 8% rise in capital outlays in 1986. The rise is now projected at only 3.8%. This downsizing of plans could reflect the auto sales slowdown that resulted when cut-rate financing deals were scaled back. Recent softness in sales of domestically produced cars is shown in Chart 2.

CHART 2

SALES OF U.S.-MADE AUTOS
(MILLIONS OF UNITS)



Another scaling back of plans shows up in the huge trade and services sector. In the winter, the survey found a 9% rise planned by companies in this industry. Trade and services respondents to the current survey project only a 3.6% increase. As Table XIV indicates, the softness in trade and services is in business services and hospitals.

On the up side, the one outstanding industry is aerospace, which continues to enjoy strong order books both on the commercial and the military sides. Other relatively large increases in capital spending this year are slated by nonferrous metals, fabricated metals, and as already noted, gas utilities.

A snapshot of current business conditions for all industries covered by the survey is shown in Tables 1 through 3.

Table 1

Durables Indicators
(Billions of dollars*)

	1985				1986	Years	
	I	II	III	IV	I	83	84
Iron & Steel							
Shipments.....	51.360	53.072	53.732	52.116	49.308	48.389	53.799
New Orders.....	52.600	53.172	54.056	52.576	51.032	51.578	52.490
After-Tax Profits..	-1.108	-1.580	-1.020	-1.292	NA	-3.746	-0.379
Nonferrous Metals							
Shipments.....	57.964	59.112	59.344	58.044	56.616	57.820	62.268
New Orders.....	56.040	61.372	58.044	57.488	57.204	59.945	61.304
After-Tax Profits..	0.048	-0.872	-1.248	-3.252	NA	-0.288	-0.084
Electrical Machinery							
Shipments.....	182.184	180.236	184.608	194.824	187.496	155.898	182.342
New Orders.....	193.232	182.100	186.920	193.468	192.372	165.656	191.104
After-Tax Profits..	7.596	6.776	5.388	6.340	NA	6.367	8.616
Nonelectrical Machinery							
Shipments.....	208.816	216.652	209.376	215.000	207.992	178.303	209.559
New Orders.....	218.136	208.624	211.792	203.584	206.124	180.910	212.443
After-Tax Profits..	7.288	10.368	8.852	11.936	NA	7.680	11.963
Autos, Trucks & Parts							
Shipments.....	208.172	193.756	201.052	212.752	216.050	152.825	192.333
After-Tax Profits..	8.808	11.492	5.372	10.668	NA	7.168	10.575
Aerospace							
Shipments.....	85.084	85.472	91.700	99.128	92.164	70.770	76.750
New Orders.....	77.800	100.032	119.568	107.460	111.576	81.492	92.862
After-Tax Profits..	3.888	4.020	2.372	4.476	NA	2.829	3.639
Fabricated Metals							
Shipments.....	160.608	165.508	173.364	176.168	170.744	120.642	139.164
New Orders.....	159.256	161.904	172.488	177.052	167.440	119.539	140.280
After-Tax Profits..	3.596	4.084	3.420	2.836	NA	2.693	4.646
Instruments							
Shipments.....	56.072	57.368	56.564	57.076	56.632	47.892	53.482
New Orders.....	55.928	57.908	57.000	57.440	55.556	48.576	54.153
After-Tax Profits..	4.108	4.416	3.704	2.376	NA	3.672	4.208
Stone, Clay & Glass							
Shipments.....	56.520	58.032	57.284	57.236	59.428	49.010	54.981
New Orders.....	56.680	57.800	57.292	58.308	59.848	49.314	55.455
After-Tax Profits..	0.452	2.352	2.044	1.748	NA	1.002	1.870

*Shipments and new orders are at seasonally adjusted annual rate. Profits are not seasonally adjusted.

Table 2

Nondurables Indicators
(Billions of dollars*)

	1985				1986	Years	
	I	II	III	IV	I	83	84
Chemicals							
Shipments.....	212.856	213.572	216.460	214.244	214.948	190.727	211.804
After-Tax Profits	12.716	13.916	9.400	0.800	NA	11.644	13.883
Paper							
Shipments.....	97.024	97.400	97.344	98.724	103.184	85.181	95.910
After-Tax Profits	2.872	3.496	2.404	2.792	NA	2.327	3.015
Rubber & Plastics							
Shipments.....	50.056	48.220	46.536	48.440	47.696	50.350	52.151
After-Tax Profits	2.228	1.104	2.104	1.392	NA	1.891	2.333
Petroleum							
Shipments.....	187.772	198.168	191.680	198.552	169.752	191.408	200.667
After-Tax Profits	16.780	7.780	14.220	11.716	NA	19.297	17.154
Food & Beverage							
Shipments.....	299.052	295.372	293.908	296.532	301.932	286.541	295.091
After-Tax Profits	7.768	9.464	10.632	10.888	NA	9.436	9.760
Textiles							
Shipments.....	51.164	51.336	52.784	55.184	54.056	52.203	55.054
After-Tax Profits	0.764	1.016	1.068	1.484	NA	1.599	1.635

*Shipments are at seasonally adjusted annual rate. Profits are not seasonally adjusted.

Table 3

Nonmanufacturing Indicators

	1985				1986	Years	
	I	II	III	IV	I	83	84
Mining							
Bituminous Coal Production --Thousand net tons.....	212,677	227,792	222,306	219,415	217,167	194,501	222,940
Oil & Gas Well Footage Drilled --Thousands of feet.....	80,915	70,488	68,001	46,077	NA	77,569	89,243
Refiners' Acquisition Price of Oil--Dollars.....	26.63	26.73	26.50	26.74	20.73	28.87	28.53
Railroads							
Revenue Freight Ton-Miles --Billions of miles.....	220.5	222.8	216.2	215.7	NA	826.1	921.8
New Freight Cars, Unfilled Orders --Thousands of cars.....	4.2	4.1	3.3	2.0	NA	3.9	6.0
Airlines							
Passenger-Miles Revenue--Billions	73.5	86.1	92.7	79.5	NA	69.3	74.6
Passenger Load Factor--%.....	59.7	66.4	62.9	56.4	NA	60.6	59.1
Electric Utilities							
Electricity Output --Millions of kw-hr.....	620,684	586,400	655,200	606,951	NA	577,571	604,076
Electric Utility Revenues --Millions of $.....	36,427	36,174	41,347	35,928	NA	32,489	35,565
Gas Utilities							
Natural Gas Sales--Trillion btu..	4,878	2,535	2,078	3,255	NA	3,226	3,334
Gas Utility Revenues--Million $..	24,914	11,854	9,486	15,686	NA	16,287	16,878
Communications							
Commercial Construction --Billions of 1972$, SAAR.....	53.62	54.02	53.68	55.35	57.19	34.64	44.33
Consumer Spending on Financial Services --Billions of 1972$, SAAR.....	96.00	96.40	97.01	97.61	98.32	90.72	93.31
Retail Sales--Millions of $, SA..	1,337.5	1,369.4	1,399.3	1,388.3	1,405.4	1,171.5	1,290.0
Consumer Spending on Personal, Medical & Business Services --Billions of 1972$,SAAR.....	315.8	318.4	319.1	324.7	331.4	296.7	308.2

Why Things Aren't Good When They Should Be

It may seem paradoxical that just when so many things seem to be going right for the economy, capital spending seems so soft. Oil prices are plunging, interest rates are at their lowest level in nearly a decade, and the dollar has skittered down from its Olympian heights. Yet if the survey is accurate, investment growth this year will be at a near-recession rate.

The lower price of oil, of course, is a two-edged sword, with the cutting edge swinging into action immediately while the beneficial edge will take time to come around. But why aren't interest rates and the dollar doing more for investment?

As with oil, both take time to stimulate capital spending plans. The most important impact of interest rates on investment is through increased demand for all types of final products, leading the makers of those products to replace old machinery and buildings and to expand. So far, however, lower interest rates have only had a big effect in one area--housing. And judging from the capital spending plans of industries that sell to the housing market, the effect thus far is limited. In fact, the stone, clay, glass industry projects an investment decline this year, as does the furniture industry. Lumber companies, on the other hand, plan to increase capital outlays.

CHART 3

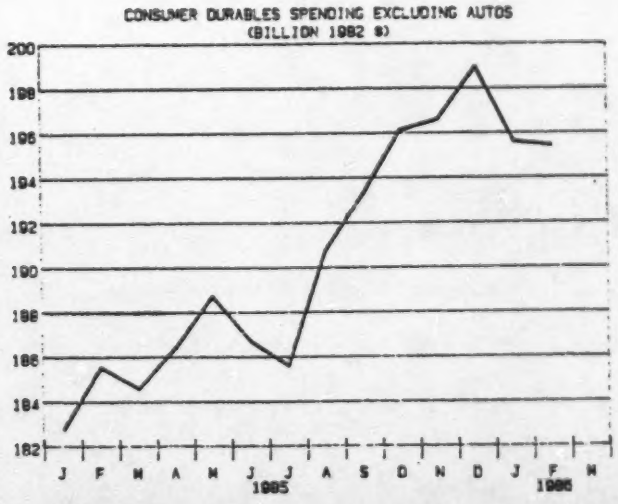
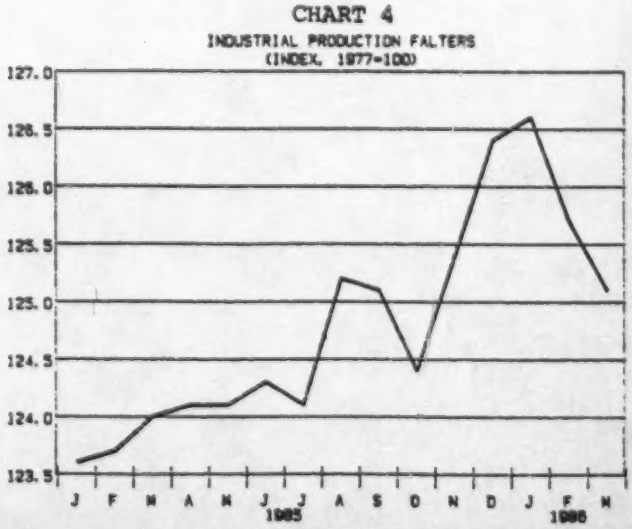


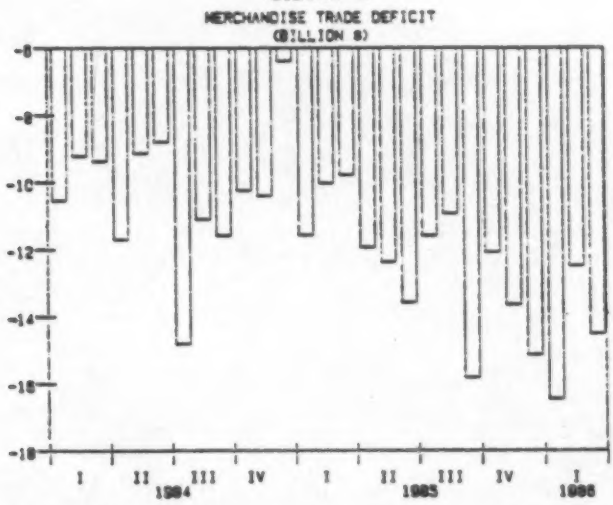
CHART 4



Besides housing, it is difficult to find the positive benefits widely expected to flow from the steep slide in interest rates. True, the impact on auto sales was distorted by the carmakers' own on-again, off-again financing incentives. Yet consumers' purchases of nonauto durable goods have also been weakening (Chart 3). And industrial production, too, remains weak (Chart 4).

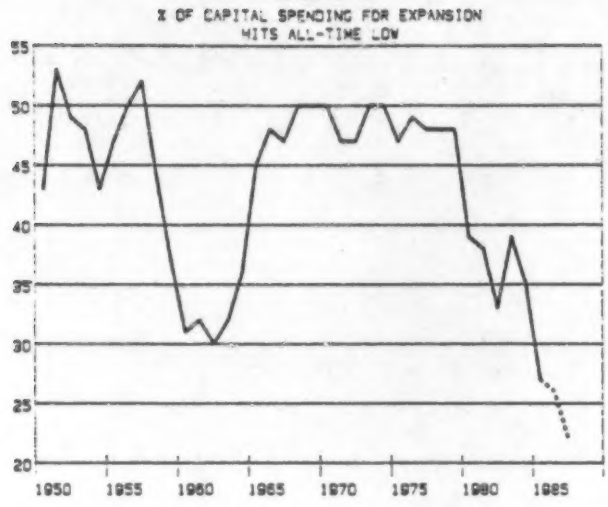
With the dollar, the story is similar--it takes time to work its good deeds. Meanwhile, though the U.S. currency is down more than 25% from a year ago versus the currencies of major trade partners, the merchandise trade deficit remains tremendous (Chart 5). Which means that sales and profits of U.S. manufacturers remain under heavy pressure, limiting the availability of investable funds and raising questions about the extent of future plant and equipment needs.

CHART 5



These concerns show up vividly in plans for capital spending on expansion versus replacement and modernization (Table II). Manufacturers responding to the survey said that in 1986 they expect to allocate only 26% of capital budgets to expansion--the lowest figure on the record, as shown in Chart 6 where the dash indicates the survey's projection. Similarly, manufacturers

CHART 6



said they intend to expand capacity this year by less than 2% (Table X), another low figure. The reason for such deemphasis of expansion is not hard to find: Factory operating rates are at historically low levels and far below preferred rates of operation (Table V).

Another way to read the figures on expansion is that U.S. manufacturers remain under intense pressure to cut costs in order to stay competitive. For example, most manufacturers excluding (petroleum firms) project that prices of their products will rise only two or three percent this year, meaning that boosts in profits will have to come from cost containment. Hence when drawing up capital budgets it makes sense to stress modernization, automation, higher productivity, and lower breakeven points over expansion of capacity.

How Good Are the Survey's Projections?

The results of the survey undercut predictions of government and some other forecasters who expect solid economic growth this year of, say, 3.5-4%. Are the survey results therefore too dire? Are the results consistent with

other available evidence on the current state of capital investment?

Thus far in 1986, data on capital investment is available for the first quarter (Tables 4 and 5). These data are measured in a different way than the plant and equipment investment figures in the survey, but the two measures move in a similar way over time.

In the first quarter, inflation-adjusted investment fell by a sharp 13.6% seasonally adjusted annual rate. As can be seen in the detail in Tables 4 and 5, the biggest factors in the decline were oil and gas well drilling, down at a 39% annual rate, and computers, down at a 53% annual rate. Both of these first-quarter developments are in line with the survey's findings for the year--big declines in capital budgets for oil and gas exploration and development and for electronic components. Table 4 also shows weakness in communications equipment, weakness which in the survey shows up in soft capital spending plans of communications equipment producers..

More generally, other indicators also point to problems. New orders for nondefense capital goods (Chart 7) have essentially gone nowhere in the past year. And F.W. Dodge's contracts for nonresidential buildings (Chart 8) have trended down in recent months. What's more, the contract figures do not include the biggest ares of weakness--oil well drilling and electric power plants.

CHART 7
NEW ORDERS FOR NONDEFENSE CAPITAL GOODS
(BILLION $)

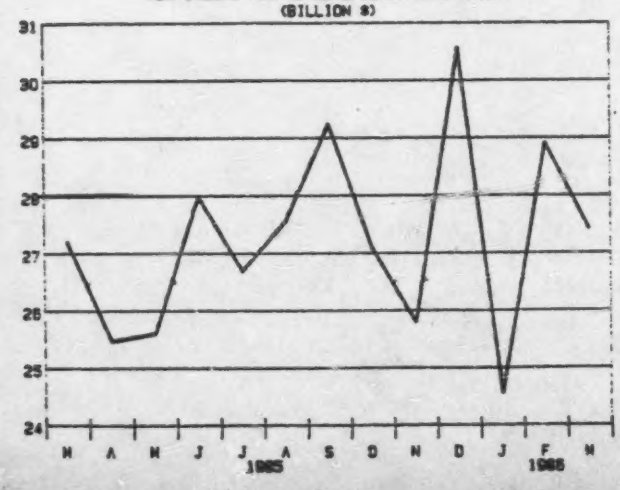


CHART 8
F.W. DODGE CONSTRUCTION CONTRACTS
FOR NONRESIDENTIAL BUILDINGS
(BILLION $)

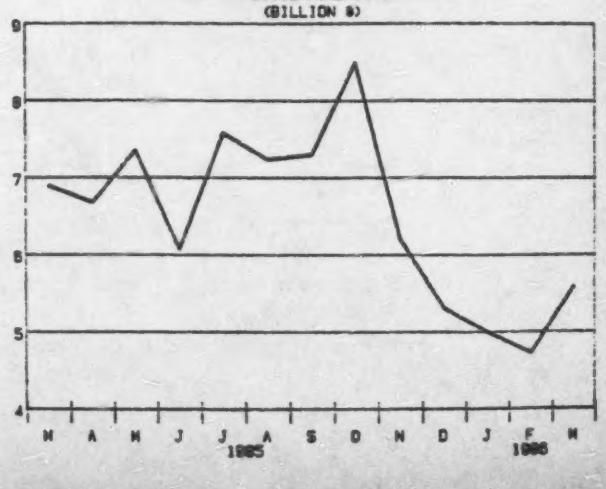


Table 4

Producers Durable Equipment--Billion 1982 $.

	1985				1986	Years	
	I	II	III	IV	I	84	85
General Industrial.....	15.735	15.937	15.611	16.967	17.025	15.061	16.063
% Change.....	-4.9	5.2	-7.9	39.5	1.4	18.7	6.6
Metalworking.....	14.313	14.307	14.350	15.307	15.015	14.212	14.569
% Change.....	-14.3	-0.2	1.2	29.5	-7.4	27.1	2.5
Special Industrial.....	12.558	13.454	12.830	14.013	13.739	12.904	13.214
%Change.....	-28.0	31.7	-17.3	42.3	-7.6	23.6	2.4
Fabricated Metals.....	10.679	10.961	11.579	11.828	11.636	9.271	11.262
% Change.....	26.7	11.0	24.5	8.9	-6.3	10.3	21.5
Total Industrial Eq.	53.285	54.659	54.370	58.115	57.415	51.448	55.107
% Change.....	-8.7	10.7	-2.1	30.5	-4.7	20.4	7.1
Office/Store/Computer..	44.192	50.001	48.760	53.054	43.956	40.974	49.002
% Change.....	-27.5	63.9	-9.6	40.2	-52.9	38.8	19.6
Communication.....	30.703	30.321	31.845	33.187	30.725	29.770	31.514
% Change.....	-17.0	-4.9	21.7	18.0	-26.5	10.8	5.9
Engineering Instruments	12.357	13.140	12.642	12.815	12.705	11.218	12.738
% Change.....	17.2	27.9	-14.3	5.6	-3.4	12.9	13.6
Photographic Eq.....	11.861	11.650	11.828	11.568	12.153	11.287	11.727
% Change.....	9.1	-6.9	6.3	-8.5	21.8	24.5	3.9
Total High-Tech.....	99.113	105.112	105.075	110.624	99.539	93.249	104.981
% Change.....	-16.0	26.5	-0.1	22.9	-34.4	23.7	12.6
Autos.....	23.156	23.842	27.233	22.354	24.405	22.621	24.146
% Change.....	33.2	12.4	70.2	-54.6	42.1	23.1	6.7
Trucks.....	29.418	29.397	29.034	31.917	26.566	28.600	29.941
% Change.....	-22.0	-0.3	-4.8	46.0	-52.0	55.1	4.7
Motor Vehicles.....	52.574	53.239	56.267	54.271	50.971	51.221	54.088
% Change.....	-2.1	5.2	24.8	-13.5	-22.2	39.2	5.6
Furniture.....	12.996	13.737	13.324	13.146	12.788	11.878	13.301
% Change.....	14.5	24.8	-11.5	-5.2	-10.5	20.5	12.0
Electrical.....	5.962	6.061	6.391	6.839	6.555	6.067	6.313
% Change.....	-14.4	6.8	23.6	31.1	-15.6	13.0	4.1
Other Commercial.....	9.375	9.746	9.006	8.521	9.307	8.573	9.162
% Change.....	29.9	16.8	-27.1	-19.9	42.3	3.9	6.9
Service.....	7.152	7.408	6.957	6.827	6.905	7.245	7.086
% Change.....	-15.1	15.1	-22.2	-7.3	4.6	17.3	-2.2
Total Commercial....	35.485	36.952	35.678	35.333	35.555	33.763	35.862
% Change.....	5.7	17.6	-13.1	-3.8	2.5	13.9	6.2
Railroad.....	1.460	1.632	1.744	1.536	1.387	1.517	1.593
% Change.....	-15.5	56.1	30.4	-39.8	-33.5	35.4	5.0
Aircraft.....	11.780	12.109	13.676	13.806	14.220	9.382	12.843
% Change.....	18.5	11.6	62.7	3.9	12.5	1.8	36.9
Ships.....	2.232	2.114	1.950	1.645	1.592	2.211	1.985
% Change.....	-55.3	-19.5	-27.6	-49.4	-12.3	9.1	-10.2
Other Transportation	15.472	15.855	17.370	16.987	17.199	13.110	16.421
% Change.....	-1.8	10.3	44.1	-8.5	5.1	6.0	25.3
Power.....	12.862	12.780	13.299	14.738	13.734	13.328	13.420
% Change.....	-28.6	-2.5	17.3	50.8	-24.6	15.4	0.7
Farm.....	9.778	10.982	10.470	11.395	10.758	10.254	10.656
% Change.....	-29.6	59.1	-17.4	40.3	-20.6	0.6	3.9
Construction.....	10.604	11.097	10.633	11.298	12.807	10.207	10.908
% Change.....	-5.7	19.9	-15.7	27.5	65.1	32.5	6.9
Mining & Oilfield.....	4.560	4.784	4.596	4.893	4.640	4.647	4.708
% Change.....	-5.7	21.1	-14.8	28.5	-19.1	16.1	1.3
Total Equipment.....	293.944	305.587	307.872	317.794	302.643	281.558	306.299
% Change.....	-10.1	16.8	3.0	13.5	-17.7	22.2	8.8

Table 5

Nonresidential Construction--Billion 1982$

	1985				1986	Years		
	I	II	III	IV	I	83	84	85
Industrial.....	13.796	14.669	13.804	14.621	14.948	12.404	12.629	14.223
% Change.....	20.1	27.8	-21.6	25.9	9.3	-28.5	1.8	12.6
Offices.....	28.332	28.643	28.086	28.068	28.752	20.006	23.813	28.282
% Change.....	40.5	4.5	-7.6	-0.3	10.1	-13.2	19.0	18.8
Stores.....	25.116	25.195	25.412	27.099	28.242	14.465	20.345	25.706
% Change.....	62.2	1.3	3.5	29.3	18.0	1.6	40.6	26.3
Health Care.....	5.131	5.184	4.989	4.655	4.795	6.319	5.792	4.990
% Change.....	-10.3	4.2	-14.2	-24.2	12.6	7.6	-8.3	-13.9
Telephone.....	6.998	7.015	6.657	6.293	6.559	6.131	6.699	6.741
% Change.....	-1.1	1.0	-18.9	-20.1	18.0	-12.5	9.3	0.6
Utilities.....	25.193	25.617	25.243	24.160	24.866	19.594	21.453	25.053
% Change.....	52.8	6.9	-5.7	-16.1	12.2	-8.2	9.5	16.8
Oil & Gas Well Drilling	39.322	37.986	40.187	41.816	36.889	33.984	39.404	39.828
% Change.....	-15.7	-12.9	25.3	17.2	-39.4	-10.1	15.9	1.1
Other.....	19.324	20.987	21.403	22.000	21.405	16.772	18.592	20.928
% Change.....	18.5	39.1	8.2	11.6	-10.4	0.9	10.8	12.6
Total Construction.....	163.212	165.296	165.781	168.712	166.456	129.675	148.727	165.750
% Change.....	19.9	5.2	1.2	7.3	-5.2	-9.5	14.7	11.4

In sum, evidence on capital spending outside of the survey supports the survey's conclusion that 1986 will be a troubled year for investment.

Lending further credence to an expectation of weak capital spending this year is the track record of McGraw-Hill's spring survey. As shown in Charts 9 to 11, this survey over time has been too bullish. On average the survey has overpredicted nominal capital spending for all business by 1-2%. The implication, then, is that if anything, the survey's bearish projection may not be bearish enough.

CHART 9

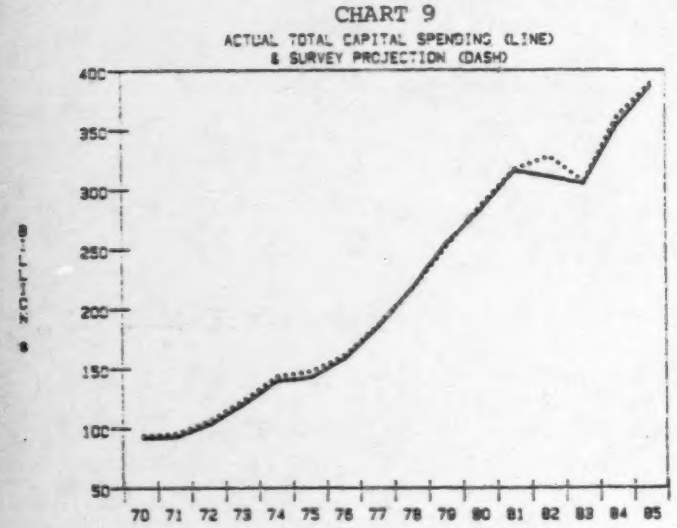


CHART 10

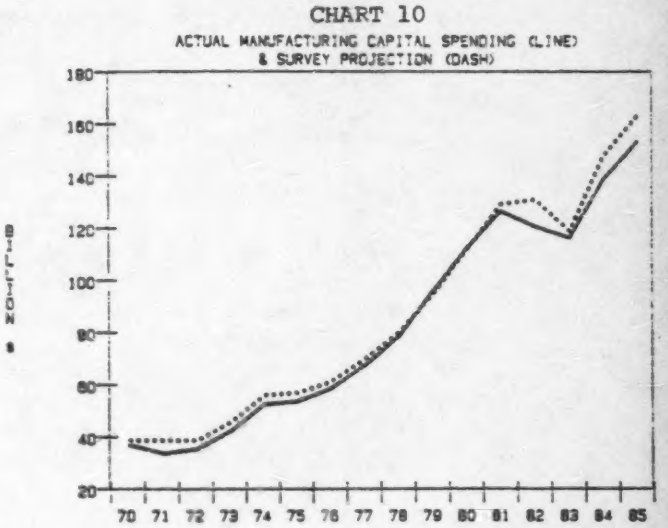
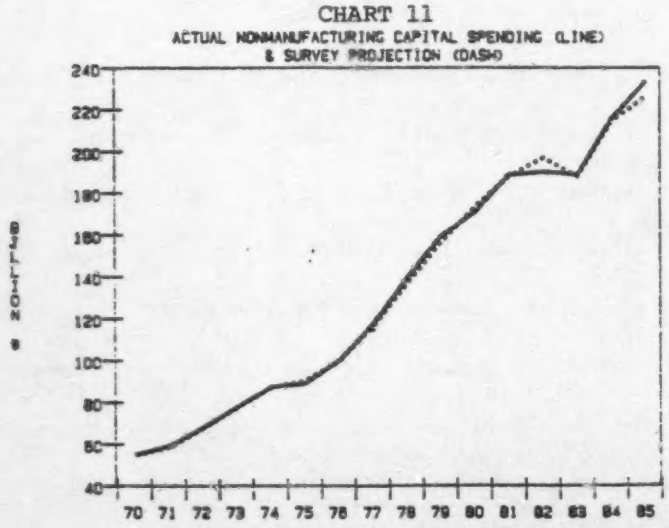


CHART 11



The only hint at a silver lining in the survey is the sales projections. If, in fact, sales do spurt as survey respondents project, then capital budgets may be beefed up. Right now, however, companies apparently do not have enough confidence in their sales projections to convert them into hard cash outlays for new plant and equipment.

Nor are respondents evincing much confidence in 1987, for which capital budgets currently show little change from 1986. However, the survey typically finds that year-ahead capital spending plans are weak, probably because those budgets include only projects approved early in the planning cycle. As 1987 approaches, more projects will be approved, particularly if the economy picks up some steam in the half of 1986.

And, in fact, many analysts do expect the economy to improve in the second half, finally spurred by those falling oil prices, interest rates, and exchange rate. If the rebound does not come soon, however, capital budgeting for 1987 may reflect the current sluggish economic environoment.

Meanwhile, back in 1986, there seems little chance that investment will grow much if at all.

Notes on the Survey

Results in this report are based on the responses of about 500 firms to a survey taken in March and April. These firms account for 24% of capital spending in the country (Table IX). For capital spending (Table I), firms supplied dollar estimates of future plant and equipment expenditures. Estimates for each year were summed by industry, and percentage changes between years were calculated. Each industry's percentage change for 1985-86, derived from the sample firms, was then applied to the industry's total capital spending in 1985 in order to derive the industry's total estimated

capital spending in 1986. The 1986-87 percentage change was applied to the estimated 1986 total industry figure to derive the industry's total estimated 1987 capital spending. The procedure was the same for 1988. Firms with extreme percent changes in spending (outliers) were removed from the sample on a year-by-year basis. The source of the actual 1985 capital spending is the U.S. Department of Commerce. Once each industry's total estimated capital spending was derived, the figures were summed to derive estimates for the various aggregate groupings--durables, nondurables, all manufacturing, all nonmanufacturing and all business.

All data presented in this report other than the capital spending figures are based on percentage--rather than dollar--answers supplied by the sample firms. Percentage responses were weighted by size of firm within an industry to derive industry figures. Figures for the aggregates were then derived by weighting each industry by size. The weighting scheme varied according to the data being processed. For example, percentage changes in sales and product prices were weighted by sales levels while percentage changes in plant and equipment price expectations were weighted by capital spending.

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NOTE: The other durables category listed in the tables includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, personal and business services, and construction firms.

Industries in this report correspond to the following Standard Industrial Classification (SIC) codes: iron and steel (331); nonferrous metals (333,335); electrical machinery (36); nonelectrical machinery (35); autos, trucks, and parts (371); aerospace (372); fabricated metals (34); instruments (38); stone, clay, glass (32); other durables (24,25,39, and pieces of 33 and 37 not accounted for elsewhere); chemicals (28); paper and pulp (26); rubber and plastics (30); petroleum (29); food and beverages (20); textiles (22); other nondurables (21,23,27,31); mining (10,11,12,13,14); railroads (40); airlines (45); other transportation (42,43,44); electric utilities (491); gas utilities (492); communications (48); trade and services (5,6,7,8,15,16).

TABLE I

PLANS FOR CAPITAL SPENDING
(Billions of Dollars)

INDUSTRY	1985 ACTUAL	1986 PLANNED	1985-1986 % CHANGE	1987 PLANNED	1988 PLANNED
Iron & Steel	4.10	4.10	0.1	5.20	5.46
Nonferrous Metals	1.88	2.11	12.2	2.25	2.11
Electrical Machinery	15.57	13.44	-13.7	14.61	16.22
Non-Electrical Machinery	15.97	16.47	3.2	15.63	15.95
Autos,Trucks & Parts	14.45	14.99	3.8	13.45	13.91
Aerospace	3.46	4.47	29.3	4.05	3.63
Fabricated Metals	3.56	3.96	11.2	3.57	3.57
Instruments	3.72	3.97	6.6	3.66	3.54
Stone,Clay & Glass	3.40	3.27	-3.9	3.45	3.59
Other Durables	7.03	7.57	7.7	7.95	8.63
TOTAL DURABLES	73.14	74.36	1.7	73.84	76.61
Chemicals	16.45	16.82	2.3	17.43	18.09
Paper & Pulp	8.53	9.20	7.8	8.15	7.35
Rubber & Plastic	3.83	3.93	2.6	3.49	3.25
Petroleum	26.68	20.42	-23.4	19.75	19.77
Food & Beverage	10.29	10.23	-0.5	10.36	11.16
Textiles	1.78	1.69	-4.9	1.70	1.59
Other Nondurables	12.45	12.95	4.0	12.10	11.12
TOTAL NONDURABLES	80.01	75.25	-6.0	72.98	72.32
ALL MANUFACTURING	153.15	149.61	-2.3	146.81	148.93
Mining	15.88	13.99	-11.9	15.84	14.99
Railroads	7.06	6.24	-11.6	6.18	6.43
Airlines	4.78	5.00	4.7	5.09	4.75
Other Transportation	6.13	6.17	0.7	6.38	5.91
Electric Utilities	36.12	34.08	-5.6	31.25	29.49
Gas Utilities	12.62	14.31	13.4	15.99	16.42
Communications	32.02	32.13	0.4	30.74	29.77
Trade & Services	118.65	122.97	3.6	121.84	126.62
ALL NONMANUFACTURING	233.26	234.91	0.7	233.31	234.38
ALL BUSINESS	386.41	384.51	-0.5	380.12	383.31

TABLE II

EXPANSION VERSUS MODERNIZATION
(Percent of Capital Spending)

	ACTUAL 1985		PLANNED 1986		PLANNED 1987	
INDUSTRY	Expans.	Replace. Modern.	Expans.	Replace. Modern.	Expans.	Replace. Modern.
Iron & Steel	3	97	5	95	3	97
Nonferrous Metals	9	91	8	92	8	92
Electrical Machinery	35	65	30	70	27	73
Non-Electrical Machinery	13	87	13	87	8	92
Autos,Trucks & Parts	2	98	4	96	2	98
Aerospace	22	78	19	81	10	90
Fabricated Metals	14	86	16	84	22	78
Instruments	25	75	28	72	25	75
Stone,Clay & Glass	22	78	17	83	13	87
Other Durables	41	59	40	60	39	61
TOTAL DURABLES	19	81	18	82	15	85
Chemicals	28	72	24	76	22	78
Paper & Pulp	36	64	48	52	20	80
Rubber & Plastic	9	91	21	79	17	83
Petroleum	40	60	35	65	37	63
Food & Beverage	30	70	40	60	40	60
Textiles	15	85	24	76	22	78
Other Nondurables	56	44	41	59	31	69
TOTAL NONDURABLES	36	64	35	65	29	71
ALL MANUFACTURING	27	73	26	74	22	78
Mining	53	47	48	52	62	38

TABLE III

BUILDINGS, MOTOR VEHICLES, AND OTHER MACHINERY & EQUIPMENT

(Percent of Capital Spending)

INDUSTRY	ACTUAL 1985			PLANNED 1986			PLANNED 1987		
	Buildings	Motor Vehicles	Machinery/ Equipment	Buildings	Motor Vehicles	Machinery/ Equipment	Buildings	Motor Vehicles	Machinery/ Equipment
Iron & Steel	6	5	89	10	0	90	4	0	96
Nonferrous Metals	5	1	94	5	1	94	5	1	94
Electrical Machinery	23	1	76	21	1	78	17	1	83
Non-Electrical Machinery	16	4	81	19	4	77	16	4	79
Autos,Trucks & Parts	7	0	93	10	0	90	10	0	90
Aerospace	25	2	72	22	2	75	14	1	51
Fabricated Metals	14	4	82	7	4	89	8	4	87
Instruments	35	5	60	32	4	62	29	6	64
Stone,Clay & Glass	12	5	83	10	5	84	11	5	84
Other Durables	13	7	80	10	9	82	9	8	83
TOTAL DURABLES	16	3	82	16	3	82	13	3	82
Chemicals	16	1	83	15	1	85	13	1	85
Paper & Pulp	14	1	85	3	1	96	3	2	95
Rubber & Plastic	9	0	91	7	0	93	8	0	92
Petroleum	46	1	53	43	1	56	45	1	54
Food & Beverage	20	8	72	17	8	75	17	8	75
Textiles	26	3	71	15	4	81	8	5	86
Other Nondurables	27	6	67	16	8	76	12	1	87
TOTAL NONDURABLES	28	3	69	23	3	74	23	2	75
ALL MANUFACTURING	22	3	75	19	3	78	18	2	78
Mining	2	2	96	2	2	96	1	2	74
Railroads	3	0	92	3	0	97	3	0	97
Airlines	21	3	76	29	3	69	23	7	69
Other Transportation	21	47	32	25	45	30	19	53	28
Electric Utilities	11	1	88	11	1	88	10	1	89
Gas Utilities	16	1	82	17	2	82	3	2	95
Communications	11	3	87	12	3	86	4	2	93
Trade & Services	26	31	42	26	31	42	23	32	45
ALL NONMANUFACTURING	18	18	63	19	18	63	15	19	65
ALL BUSINESS	20	12	68	19	12	69	16	12	70

TABLE IV

CAPACITY EXPANSION
(Index, 1967=100)

INDUSTRY	1985	1986	1987	Percent Change 1984-85	Percent Change 1985-86	Percent Change 1986-87
Iron & Steel	107	100	100	-1.9	-6.8	0.5
Nonferrous Metals	144	153	162	7.7	5.7	5.9
Electrical Machinery	331	350	379	14.0	5.9	8.1
Non-Electrical Machinery	220	218	220	-0.9	-0.7	0.9
Autos,Trucks & Parts	160	160	162	0.0	0.0	1.1
Other Transportation	219	241	253	6.0	9.9	5.1
Fabricated Metals	258	259	263	-1.0	0.2	1.6
Stone,Clay & Glass	195	198	201	1.5	1.6	1.6
Chemicals	249	256	265	1.5	2.9	3.4
Paper & Pulp	198	205	211	3.4	3.1	3.4
Rubber & Plastic	182	183	185	0.5	0.8	0.7
Petroleum	138	138	138	-1.5	0.0	0.0
Food & Beverage	285	295	309	4.3	3.7	4.5
Textiles	215	226	236	2.3	5.2	4.3
ALL MANUFACTURING	227	231	239	4.8	1.8	3.7
Gas & Electric Utilities	222	225	234	0.7	1.1	3.8

TABLE V

CAPACITY - RATES OF OPERATION
(Percent)

INDUSTRY	YEAREND 1984	YEAREND 1985	POINT DIFFERENCE 1984-85	PREFERRED RATE OF OPERATION
Iron & Steel	61.9	60.2	-1.7	93.4
Nonferrous Metals	87.3	98.3	11.0	99.1
Electrical Machinery	76.0	76.1	0.1	87.2
Non-Electrical Machinery	81.3	67.0	-14.3	84.3
Autos,Trucks & Parts	80.9	96.1	15.2	89.5
Aerospace	85.3	84.6	-0.7	89.7
Fabricated Metals	79.6	68.8	-10.8	94.2
Instruments	84.9	75.9	-9.0	90.9
Stone,Clay & Glass	79.2	87.0	7.8	91.4
Other Durables	67.5	76.7	9.2	94.6
TOTAL DURABLES	75.9	78.3	2.4	91.4
Chemicals	77.1	72.2	-4.9	82.8
Paper & Pulp	92.0	90.7	-1.3	96.9
Rubber & Plastic	92.4	89.5	-2.9	93.1
Petroleum	81.1	87.4	6.3	97.2
Food & Beverage	75.5	87.3	11.8	94.8
Textiles	80.1	84.8	4.7	96.2
Other Nondurables	79.8	88.0	8.2	98.8
TOTAL NONDURABLES	75.4	77.8	2.4	94.3
ALL MANUFACTURING	74.7	77.2	2.5	92.6
Electric Utilities	68.0	67.2	-0.8	81.3
Gas Utilities	78.1	83.3	5.2	91.6

TABLE VI

SALES EXPECTATIONS
(Billions of Dollars)

INDUSTRY	1985 ACTUAL	1986 EXPECTED	1985-86 % CHANGE
Iron & Steel	52.6	52.1	-0.9
Nonferrous Metals	58.6	60.1	2.5
Electrical Machinery	185.5	197.8	6.6
Non-Electrical Machinery	212.5	223.3	5.1
Autos,Trucks & Parts	203.9	211.5	3.7
Aerospace	90.3	94.7	4.9
Fabricated Metals	168.9	186.7	10.5
Instruments	56.8	62.9	10.7
Stone,Clay & Glass	57.3	60.2	5.1
Other Durables	123.5	130.8	5.9
TOTAL DURABLES	1,209.9	1,280.1	5.8
Chemicals	214.3	231.2	7.9
Paper & Pulp	97.6	105.8	8.4
Rubber & Plastic	48.3	50.8	5.2
Petroleum	194.0	182.3	-6.0
Food & Beverage	296.2	316.6	6.9
Textiles	52.6	55.7	5.8
Other Nondurables	173.8	192.6	10.8
TOTAL NONDURABLES	1,076.8	1,135.0	5.4
ALL MANUFACTURING	2,286.7	2,415.1	5.6
Mining	NA	NA	-7.3
Railroads	NA	NA	3.7
Airlines	NA	NA	3.6
Other Transportation	NA	NA	9.5
Electric Utilities	NA	NA	2.1
Gas Utilities	NA	NA	-3.2
Communications	NA	NA	5.8
Trade & Services	NA	NA	9.3

TABLE VII

REAL SALES EXPECTATIONS
(Billions of 1985 Dollars)

INDUSTRY	1985 ACTUAL	1986 EXPECTED	1985-86 % CHANGE
Iron & Steel	52.6	51.8	-1.6
Nonferrous Metals	58.6	58.9	0.4
Electrical Machinery	185.5	194.4	4.8
Non-Electrical Machinery	212.5	218.3	2.7
Autos,Trucks & Parts	203.9	206.9	1.5
Aerospace	90.3	91.6	1.4
Fabricated Metals	168.9	181.8	7.6
Instruments	56.8	60.4	6.4
Stone,Clay & Glass	57.3	59.5	3.8
Other Durables	123.5	127.0	2.9
TOTAL DURABLES	1,209.9	1,250.6	3.4
Chemicals	214.3	226.9	5.9
Paper & Pulp	97.6	103.5	6.0
Rubber & Plastic	48.3	49.1	1.6
Petroleum	194.0	226.9	17.0
Food & Beverage	296.2	309.6	4.5
Textiles	52.6	54.0	2.7
Other Nondurables	173.8	182.4	5.0
TOTAL NONDURABLES	1,076.8	1,152.5	7.0
ALL MANUFACTURING	2,287.6	2,403.1	5.1
Mining	NA	NA	-4.5
Railroads	NA	NA	2.6
Airlines	NA	NA	2.5
Other Transportation	NA	NA	7.0
Electric Utilities	NA	NA	1.0
Gas Utilities	NA	NA	-3.6
Communications	NA	NA	3.4
Trade & Services	NA	NA	6.4

TABLE VIII

INFLATION EXPECTATIONS
(Percentage Change)

INDUSTRY	Expected % Change, 1985-86	
	Plant & Equipment Prices	Product Prices
Iron & Steel	4.7	0.7
Nonferrous Metals	0.2	2.1
Electrical Machinery	3.9	1.7
Non-Electrical Machinery	2.1	2.3
Autos,Trucks & Parts	2.9	2.2
Aerospace	3.9	3.5
Fabricated Metals	3.4	2.7
Instruments	4.8	4.1
Stone,Clay & Glass	3.4	1.3
Other Durables	4.6	3.0
TOTAL DURABLES	3.3	2.4
Chemicals	2.5	1.9
Paper & Pulp	4.4	2.2
Rubber & Plastic	4.1	3.5
Petroleum	1.6	-19.7
Food & Beverage	3.7	2.3
Textiles	3.7	3.0
Other Nondurables	5.1	5.6
TOTAL NONDURABLES	3.1	-1.1
ALL MANUFACTURING	3.2	0.7
Mining	0.4	-3.0
Railroads	4.0	1.1
Airlines	4.1	1.1
Other Transportation	3.6	2.4
Electric Utilities	5.2	1.1
Gas Utilities	3.7	0.4
Communications	3.4	2.3
Trade & Services	4.5	2.8
ALL NONMANUFACTURING	4.1	1.8
ALL BUSINESS	3.7	1.4

TABLE IX

SURVEY SAMPLE SIZE

Industry	Percentage of Capital Spending Covered by Survey
Iron & Steel	15.6
Nonferrous Metals	29.6
Electrical Machinery	22.2
Non-Electrical Machinery	32.9
Autos,Trucks & Parts	74.3
Aerospace	50.8
Fabricated Metals	14.3
Instruments	10.9
Stone,Clay & Glass	27.2
Other Durables	2.6
TOTAL DURABLES	33.4
Chemicals	31.0
Paper & Pulp	25.4
Rubber & Plastic	8.2
Petroleum	49.8
Food & Beverage	27.7
Textiles	3.4
Other Nondurables	7.1
TOTAL NONDURABLES	30.8
ALL MANUFACTURING	32.1
Mining	5.9
Railroads	42.8
Airlines	44.5
Other Transportation	7.4
Electric Utilities	43.9
Gas Utilities	10.1
Communications	35.8
Trade & Services	7.0
ALL NONMANUFACTURING	18.7
ALL BUSINESS	24.0

TABLE X

CAPITAL SPENDING PLANS OF THE PETROLEUM INDUSTRY
(Millions of Dollars)

FUNCTION	1985 ACTUAL	1985-86 % CHANGE	1986 ESTIMATE	1987 PLANNED	1986-87 % CHANGE	1988 PLANNED	1987-88 % CHANGE
Exploration and Production	33,045	-28.5	23,642	23,481	-0.7	22,715	-3.3
Transportation (1)	3,795	69.3	6,425	1,831	-71.5	1,798	-1.8
Refining	3,376	-22.3	2,622	2,068	-21.1	2,079	0.5
Petrochemicals	940	38.4	1,301	1,783	37.1	1,952	9.5
Marketing	3,667	-12.9	3,193	3,265	2.3	3,079	-5.7
Other (2)	4,442	-24.7	3,344	3,556	6.3	3,906	9.8
TOTAL	49,265	-17.7	40,527	35,984	-11.2	35,528	-1.3

Notes:
(1) Includes oil pipelines; DOES not include gas pipeline.
(2) Includes coal mining.

TABLE XI

CAPITAL SPENDING PLANS FOR THE ENERGY INDUSTRIES
(Millions of dollars)

INDUSTRY	1985 ACTUAL	1986 ESTIMATED	1987 PLANNED	1988 PLANNED
Coal Mining*	3,349	3,418	3,956	4,535
Electric Utilities	36,120	34,083	31,250	29,489
Gas Utilities	12,620	14,311	15,986	16,419
Petroleum Industry	49,265	40,527	35,984	35,528
Exploration & Production	33,045	23,642	23,481	22,715
Transportation	3,795	1,831	1,798	
Refining	3,376	2,622	2,068	2,079
Petrochemicals	940	1,301	1,783	1,952
Marketing	3,667	3,193	3,265	3,079
Other*	4,442	3,344	3,556	3,906
Total Energy Industries	101,354	92,339	87,176	85,971
Total All Industry	386,410	384,512	380,121	383,313
% Energy Industry Investment of Total	26.2	24.0	22.9	22.4

*There is some duplication of investment in other petroleum and coal mining.

TABLE XII

CAPITAL SPENDING IN THE CHEMICAL PROCESS INDUSTRY
(Billions of dollars)

INDUSTRY	1985 ACTUAL	1986 ESTIMATED	1987 PLANNED	1988 PLANNED
Chemicals	16.45	16.82	17.43	18.09
Petrochemicals	0.94	1.30	1.78	1.95
Paper & Pulp	8.53	9.20	8.15	7.35
Rubber & Plastics	3.83	3.93	3.49	3.25
Stone, Clay & Glass	3.40	3.27	3.45	3.59
Petroleum Refining	3.38	2.62	2.07	2.08
Nonferrous Metals	1.88	2.11	2.25	2.11
Coal Products	0.73	0.75	0.86	0.99
Food & Beverages	2.78	2.76	2.80	3.01
Textiles	0.36	0.34	0.34	0.32
Other CPI	1.24	1.29	1.21	1.11
TOTAL CPI	43.51	44.39	43.82	43.85

Components may not add to total due to rounding.

TABLE XIII

CAPITAL SPENDING PLANS OF THE MINING INDUSTRY
(Millions of Dollars)

INDUSTRY	1985 ACTUAL	1985-86 % CHANGE	1986 ESTIMATE	1987 PLANNED	1986-87 % CHANGE	1988 PLANNED	1987-88 % CHANGE
Coal	3,349	2	3,418	3,956	15.7	4,535	14.6
Iron Ore	75	81	136	14	-89.6	14	0.0
Nonferrous	1,231	31	1,616	2,142	32.6	1,959	-8.5
Nonmetallic	867	49	1,291	755	-41.6	532	-29.6
MINING INDUSTRY	5,522	17	6,461	6,867	6.3	7,040	2.5

TABLE XIV

DETAILED INDUSTRY TREND DATA
FROM SPRING SURVEY

Industry	Capital Spending Plans-% Change		
	1985-86	1986-87	1987-88
Oil & Gas Extraction	-35.1	11.4	-1.7
Construction Contractors	-2.3	13.0	9.6
Meat Products	24.4	-4.3	10.7
Preserved Fruits and Vegetables	-28.2	-3.0	NC
Grain Mill Products	15.1	4.7	0.0
Sugar Products	1.7	12.9	0.0
Beverages	8.0	32.9	-35.1
Tobacco	0.3	-0.8	0.0
Knitting Mills	41.5	-10.6	2.0
Lumber	14.1	-17.6	4.7
Furniture	-16.6	23.0	38.6
Printing and Publishing	14.6	-18.9	-29.3
Industrial Chemicals	29.9	-13.8	10.5
Plastics Materials and Synthetics	0.0	0.0	0.0
Drugs	-3.7	-6.7	7.4
Soap, Cleaners, & Toilet Goods	50.8	-15.2	-26.8
Paints	50.0	-16.7	6.7
Agricultural Chemicals	-21.3	-4.3	20.3
Misc. Chemicals	-26.8	-15.7	51.5
Miscellaneous Plastics Products	41.5	42.9	26.3
Products of Purchased Glass	-6.3	4.0	6.0
Cement, Hydraulic	30.0	-16.5	-13.9
Misc. Nonmetallic Mineral Products	20.8	19.6	NC
Primary Nonferrous Metals	12.5	6.6	-32.8
Nonferrous Rolling and Drawing	-7.3	28.5	8.0
Metal Cans	5.3	9.3	-30.0
Cutlery, Hand Tools, Hardware	61.4	1.9	9.3
Plumbing and Heating Eq.	-40.0	0.0	0.0
Fabricated Structural Metal	1.2	-18.8	10.8
Screw Machine Products	21.6	3.7	3.6
Misc. Fabricated Metals	8.0	99.0	6.0

TABLE XIV (Continued)

DETAILED INDUSTRY TREND DATA
FROM SPRING SURVEY

Farm Equipment	-9.5	-16.5	-9.4
Construction, Mining, Materials Handling Eq.	-13.4	-20.5	-7.3
Metalworking Machinery	24.1	-5.1	8.0
Special Industry Machinery	-6.6	-38.5	-16.7
General Industrial Machinery	19.4	-6.1	4.8
Office, Computing Machinery	6.0	-0.7	5.7
Refrigeration and Service Industry Machinery	-2.5	16.4	13.7
Electric Distributing Equipment	-19.1	10.3	0.9
Electrical Industrial Apparatus	55.1	8.9	7.4
Household Appliances	1.9	-8.3	20.5
Communication Equipment	-2.8	3.5	9.1
Electronic Components	-40.9	18.3	18.8
Misc. Electrical	-20.9	14.5	11.9
Engineering & Scientific Instruments	9.3	-6.7	6.8
Miscellaneous Manufacturing	20.3	11.1	8.7
Trucking and Warehousing	5.8	4.4	-8.5
Communications	0.3	-4.3	-3.6
Telephone Communications	-0.3	1.6	-1.9
Hardware, Plumbing Eq.--Whole	-14.8	8.2	15.1
General Merchandise Stores	10.8	3.3	5.3
Department Stores	30.2	-11.2	16.0
Food Stores	37.8	21.0	31.5
Retail and Whole. Trade	9.8	4.7	10.1
Insurance Carriers	-4.3	8.6	0.0
Finance	-2.6	5.6	1.1
Hotels and Motels	-18.1	-35.0	-18.7
Business Services	-8.4	-2.5	-4.6
Computer and Data Processing Services	-27.3	5.1	4.9
Miscellaneous Business Services	-11.8	-1.5	-6.7
Amusement & Recreations Services	115.1	-2.5	-89.4
Personal & Business Services	2.6	2.1	3.1
Hospitals	-15.4	-9.1	0.0
Educational Services	30.9	-29.5	-29.3
Miscellaneous Professional Services	80.6	5.0	-0.6
Health Services	11.5	-29.9	-10.2

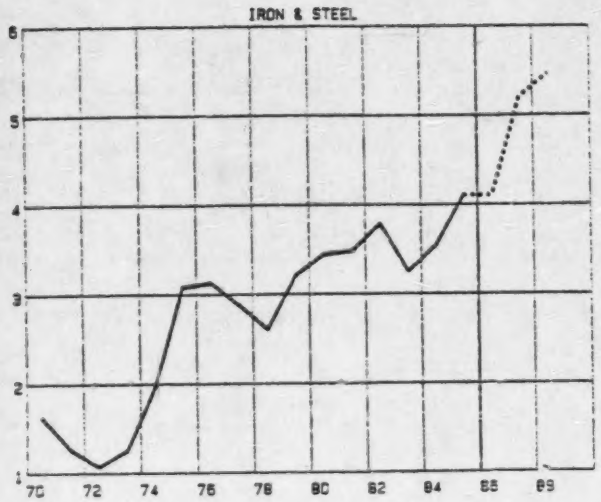
INDUSTRY CHARTBOOK

Expenditures for New Plant and Equipment
(Billions of dollars; dashes denote survey projections)

INDUSTRIES	PAGE
Iron and Steel, Nonferrous Metals, Electrical Machinery Nonelectrical Machinery	36
Autos, Trucks, and Parts, Aerospace, Fabricated Metals, Instruments	37
Stone, Clay, Glass, Other Durables, Chemicals, Paper and Pulp	38
Rubber and Plastic, Petroleum, Food and Beverage, Textiles	39
Other Nondurables, Mining, Railroads, Airlines	40
Other Transportation, Electric Utilities, Gas Utilities, Communications	41
Trade & Services, All Nonmanufacturing	42
Durables, Nondurables, All Manufacturing, All Business	43

NOTE: The other durables category listed in the charts includes lumber, furniture, jewelry, toys, and transportation equipment other than autos and aerospace. Other nondurables includes apparel, tobacco, printing and publishing, and leather. The trade and services category includes retail and wholesale trade, banking, holding companies, insurance companies, hotels, laundries, personal and business services, and construction firms.

Industries in this report correspond to the following Standard Industrial Classification (SIC) codes: iron and steel (331); nonferrous metals (333,335); electrical machinery (36); nonelectrical machinery (35); autos, trucks, and parts (371); aerospace (372); fabricated metals (34); instruments (38); stone, clay, glass (32); other durables (24, 25, 39, and pieces of 33 and 37 not accounted for elsewhere); chemicals (28); paper and pulp (26); rubber and plastics (30); petroleum (29); food and beverages (20); textiles (22); other nondurables (21,23,27,31); mining (10,11,12,13,14); railroads (40); airlines (45); other transportation (42,43,44); electric utilities (491); gas utilities (492); communications (48); trade and services (5,6,7,8,15,16).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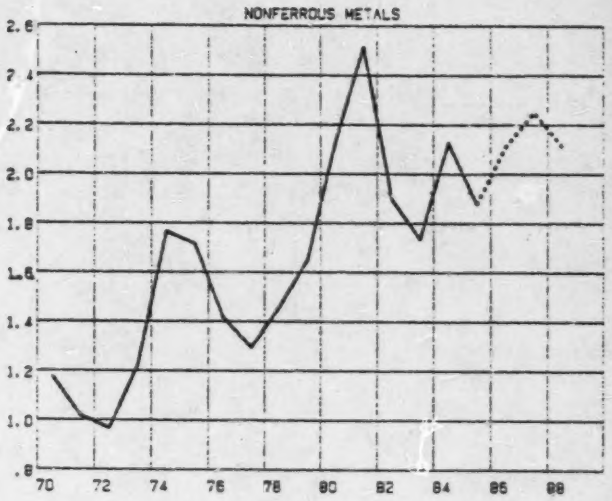
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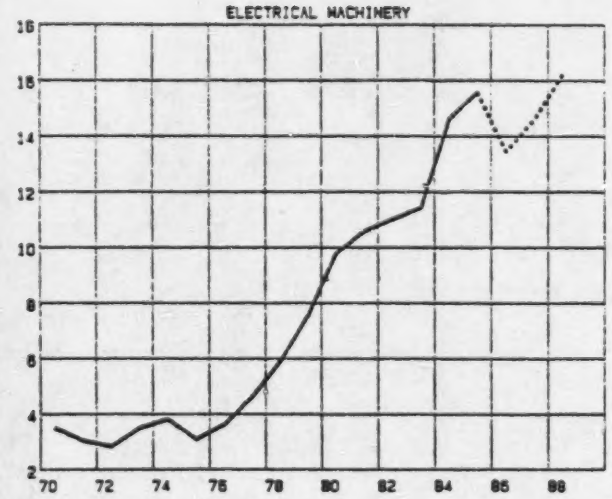
ELECTRICAL MACHINERY
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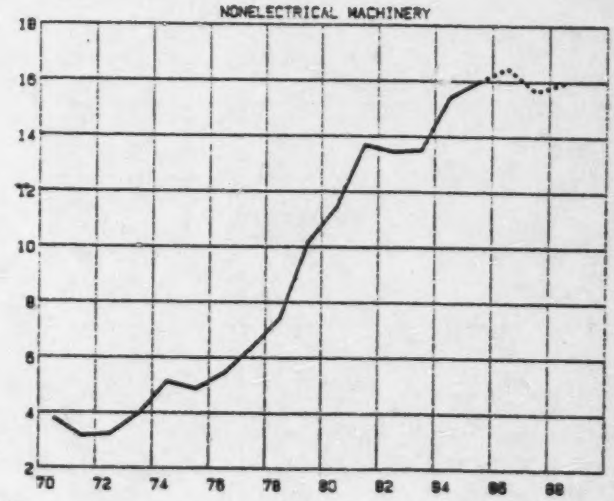
NONELECTRICAL MACHINERY
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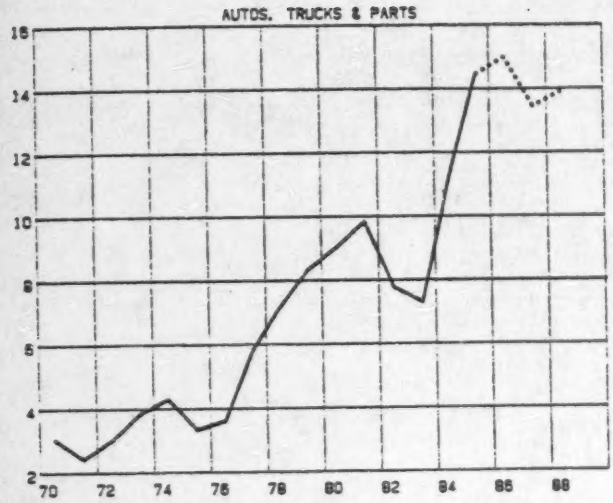
AUTOS. TRUCKS & PARTS
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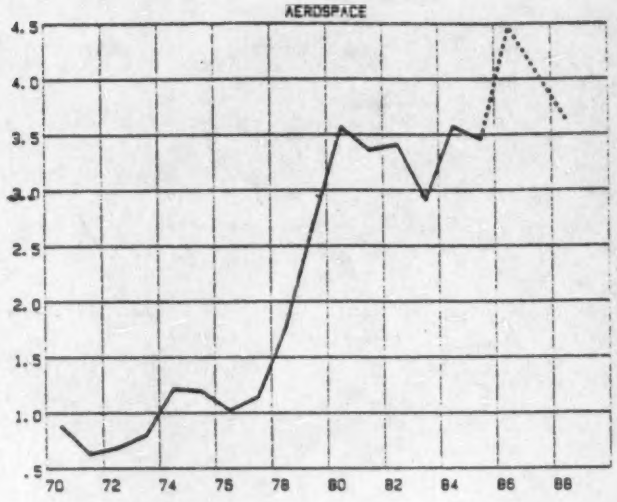
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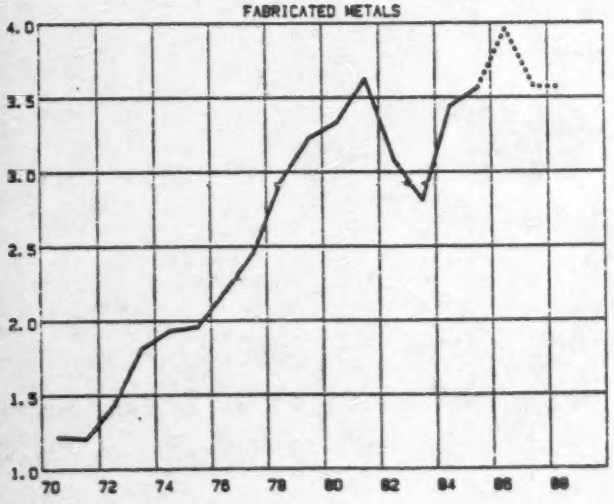
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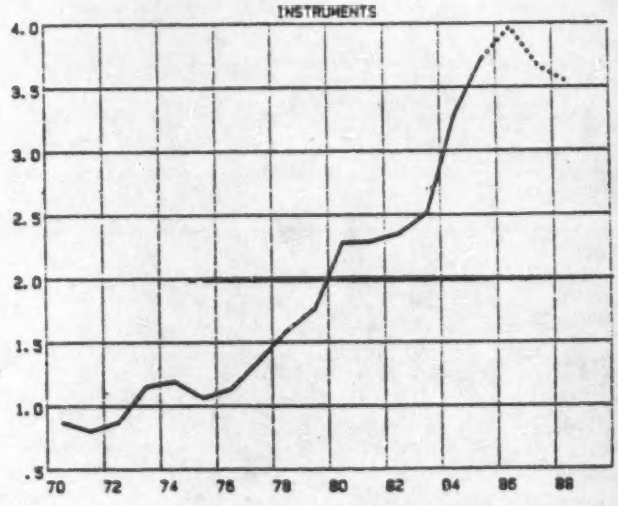
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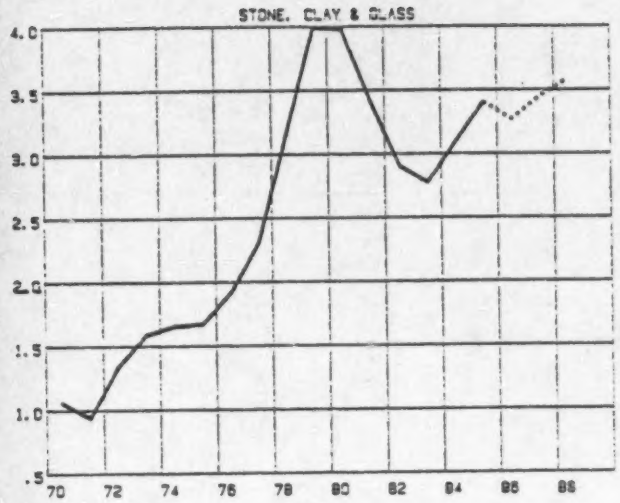
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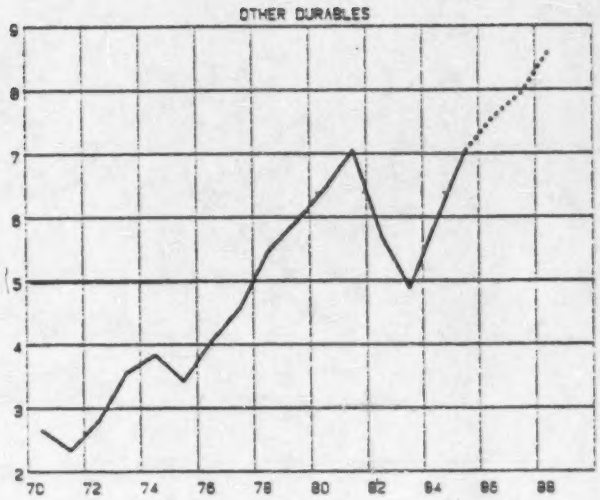
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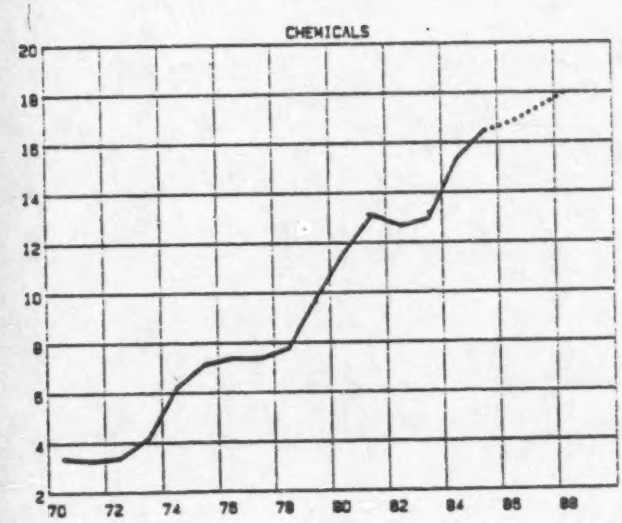
CHEMICALS
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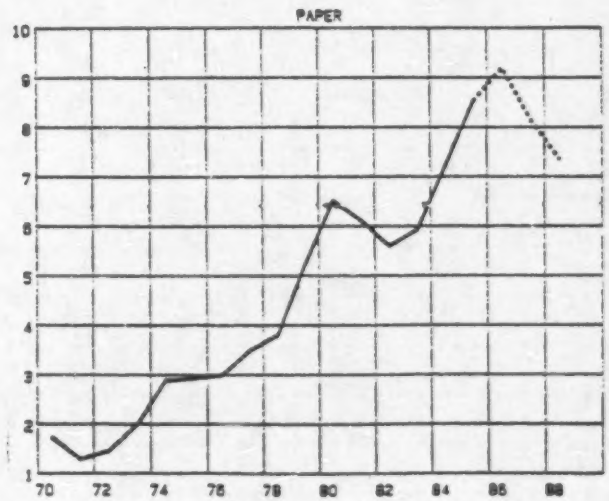
PAPER
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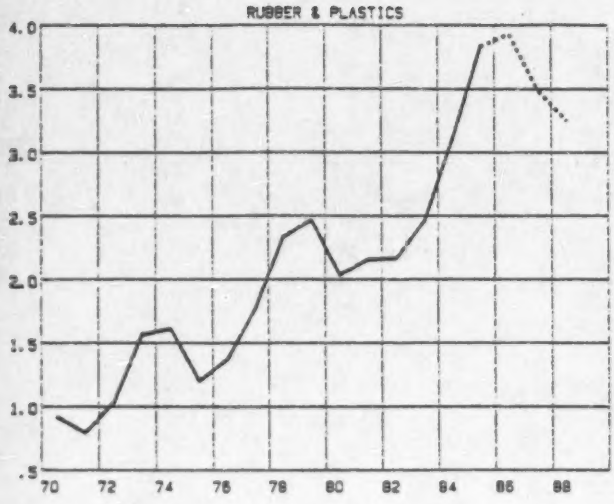
RUBBER & PLASTICS
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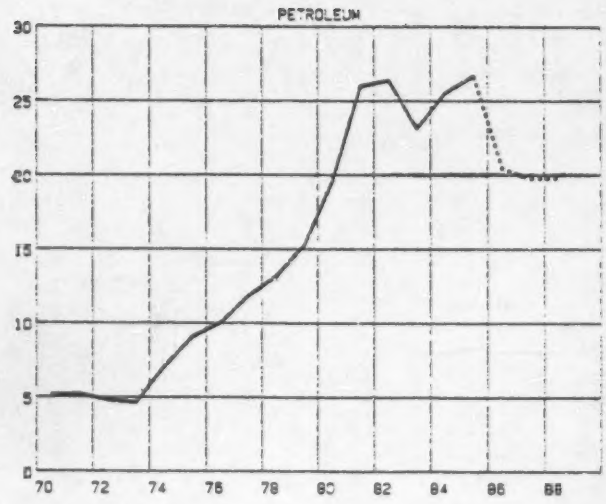
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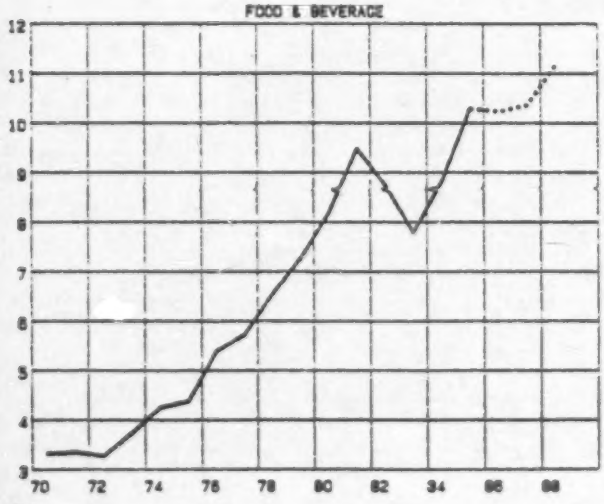
FOOD & BEVERAGE
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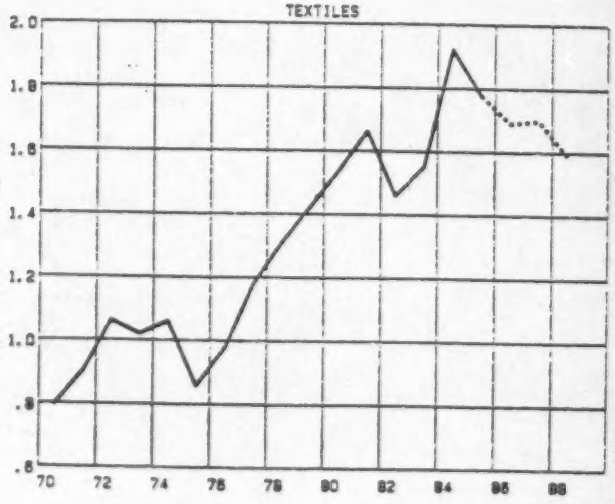
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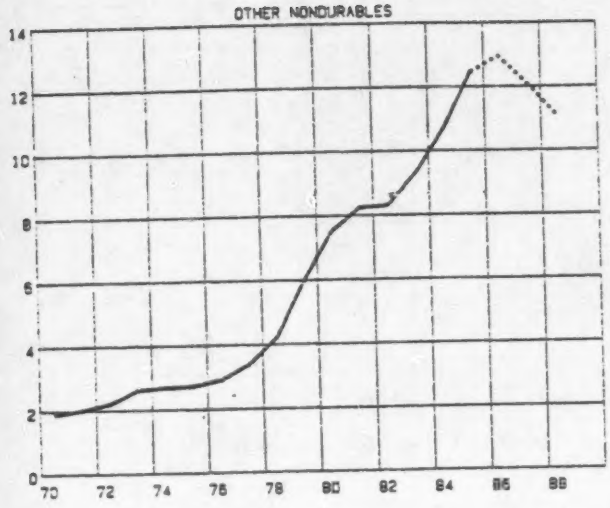
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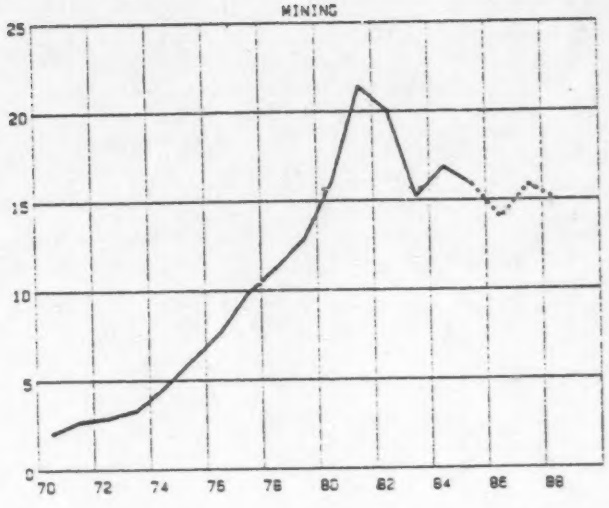
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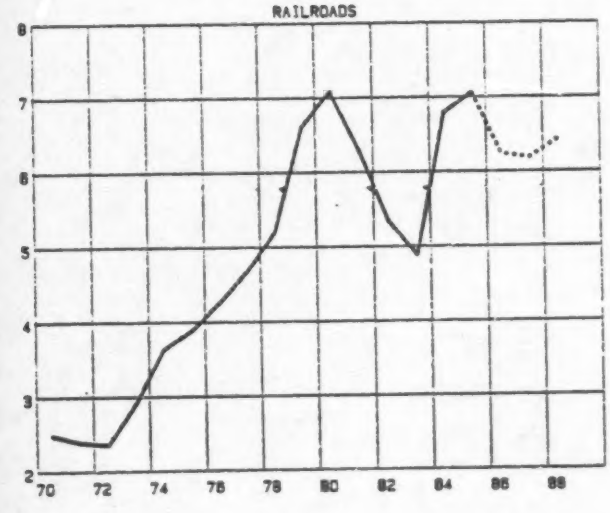
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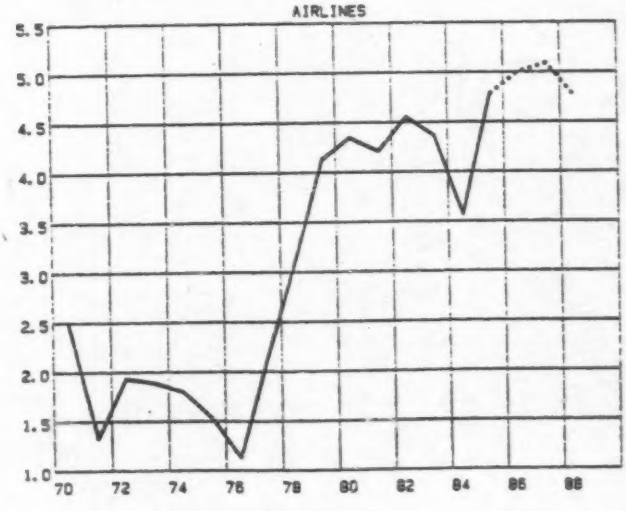
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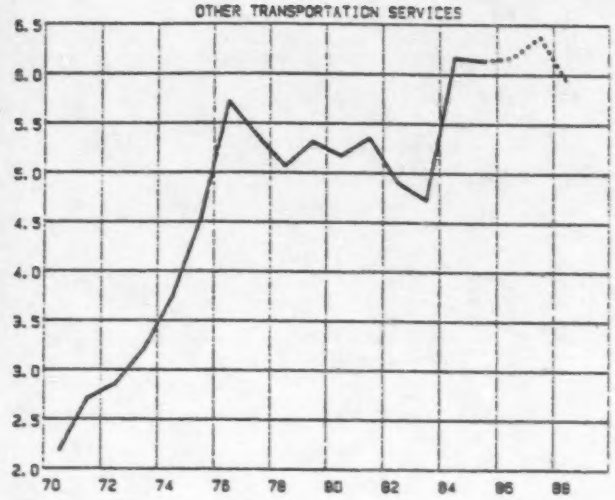
OTHER TRANSPORTATION SERVICES
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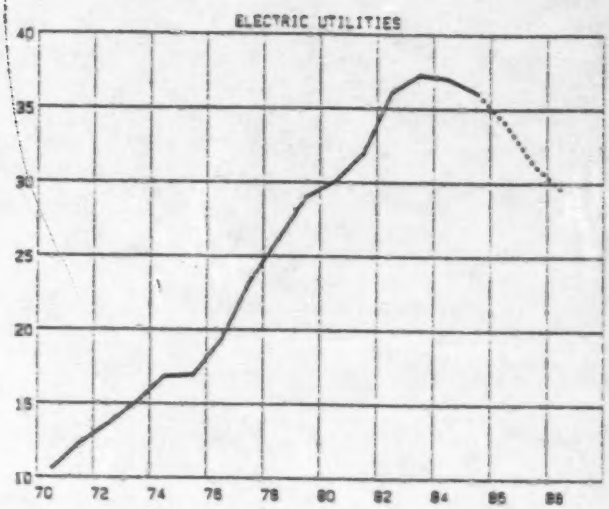
ELECTRIC UTILITIES
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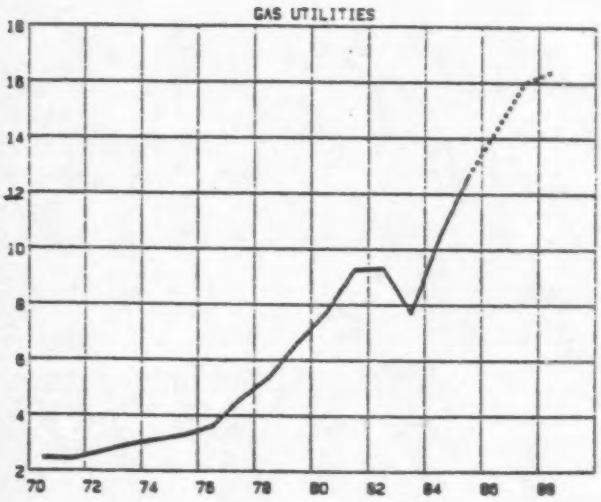
GAS UTILITIES
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12
10
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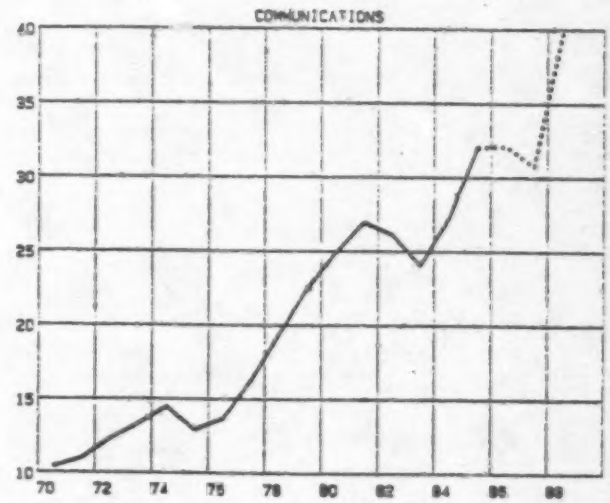
6
4
2
70 72 74 76 78 80 82 84 86 88


COMMUNICATIONS
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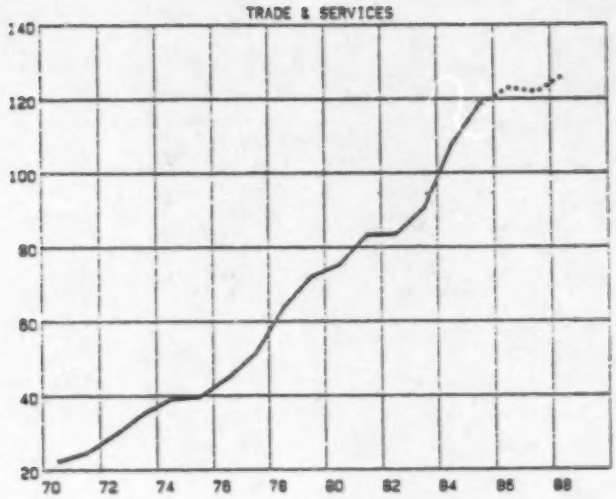
TRADE & SERVICES
140
120
100
80
60
40
20
70
72
74
76
78
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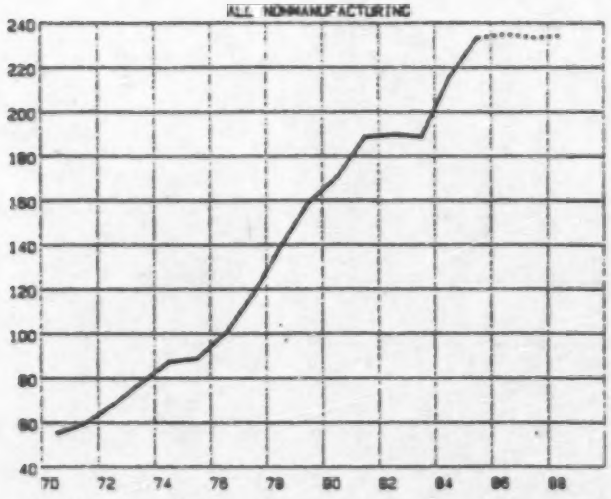
ALL NONMANUFACTURING
240
220
200
180
160
140
120
100
80
60
40
70
72
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80
82
84
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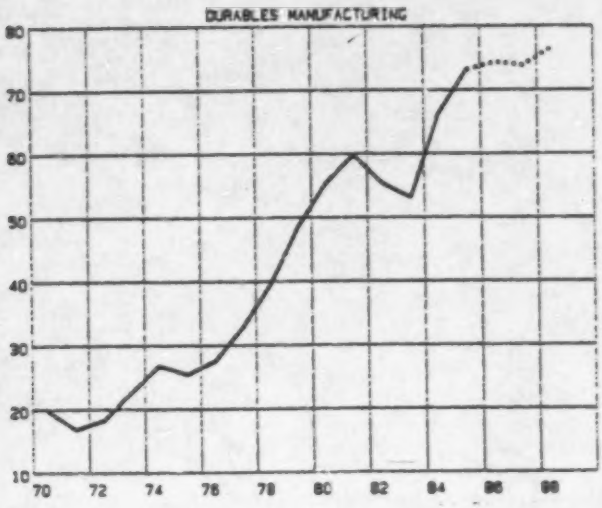
DURABLES MANUFACTURING
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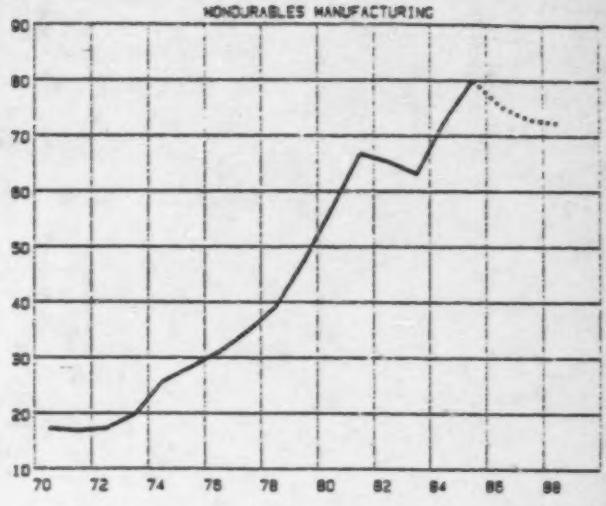
NONDURABLES MANUFACTURING
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20
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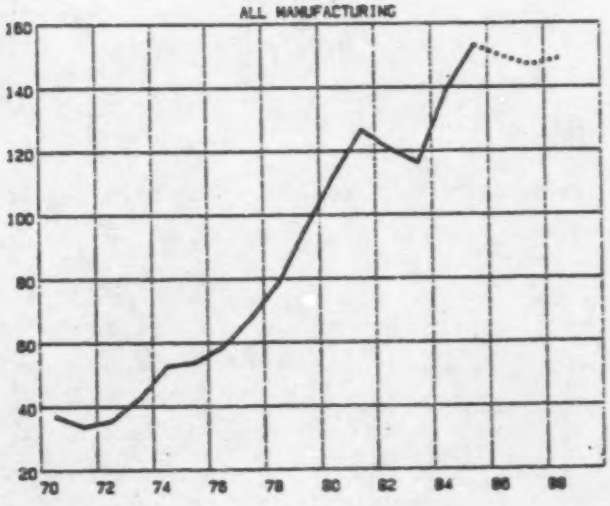
ALL MANUFACTURING
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100
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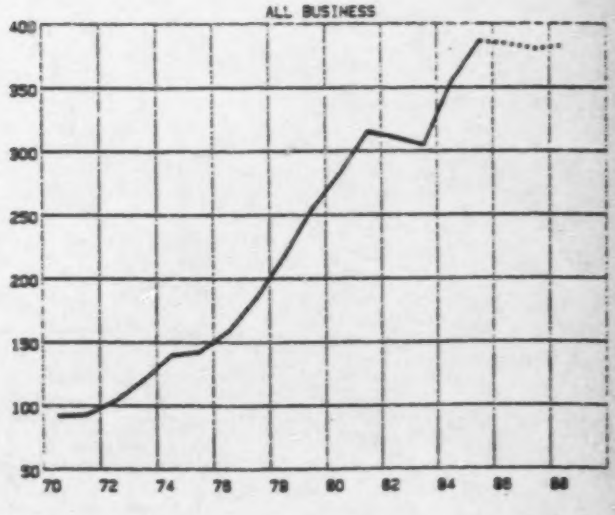
ALL BUSINESS
400
350
300
250
200
150
100
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86
88

CONFIDENTIAL

No. G_____

GENERAL

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1985, and how much does it plan to invest (inflation included) in 1986-88? (If answers omit 000s or 000,000s, note: _____.)

1985	1986	1987	1988
$	$	$	$

2. Of the total amount invested in new plants and equipment, what percent was (will be) for:

	1985	1986	1987
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for expansion?	%	%	%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%

3. If your firm is in manufacturing or mining:

How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).	%	%	%
At the end of 1985, at what rate of capacity was your company operating?	%		
What is your firm's preferred rate of operation?	%		

CONFIDENTIAL

No. CH_____

CHEMICALS

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years. (If answers omit 000s or 000,000s, note:_____.)

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1985-88 for manufacturing, nonmetallic mining, and other activities.

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Nonmetallic mining	$_____	$_____	$_____	$_____
Other (please specify)	$_____	$_____	$_____	$_____
TOTAL	$_____	$_____	$_____	$_____

	1985	1986	1987
2. Of the total amount invested in new plants and equipment, what percent was (will be) for:			
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for expansion?	%	%	%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%
3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).	%	%	%
At the end of 1985, at what rate of capacity was your company operating?	%		
What is your firm's preferred rate of operation?	%		

CONFIDENTIAL

No. A_____

AUTOS, TRUCKS, & PARTS

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment (including special tooling) in the U.S. in 1985, and how much does it plan to invest (inflation included) in 1985-88? (If answers omit 000s or 000,000s, note:_____.)

1985	1986	1987	1988
$	$	$	$

2. Of the total amount invested in new plants and equipment, what percent was (will be) for:

	1985	1986	1987
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for expansion?	%	%	%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).

1985	1986	1987
%	%	%

At the end of 1985, at what rate of capacity was your company operating? %

What is your firm's preferred rate of operation? %

CONFIDENTIAL

No. GU_____
GAS UTILITIES

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88
(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1985, and how much does it plan to invest (inflation included) in 1986-88? (If answers omit 000s or 000,000s, note:_____.)

1985	1986	1987	1988
$	$	$	$

2. Of the total amount invested in new plants and equipment, what percent was (will be) for:

	1985	1986	1987
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%

3. How much did (will) your company increase (decrease) its system's capacity? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).

	%	%	%
What percent of your system's maximum capacity were you utilizing for the December 1985 max day?	%		
What is your firm's preferred rate of operation?	%		

CONFIDENTIAL

No. EU_____

ELECTRIC UTILITIES

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1985, and how much does it plan to invest (inflation included) in 1986-88? (If answers omit 000s or 000,000s, note:_____.)

1985	1986	1987	1988
$	$	$	$

2. Of the total amount invested in new plants and equipment, what percent was (will be) for:

	1985	1986	1987
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%

3. How much did (will) your company's generating capacity, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).

	%
What percent of your system's maximum generating capacity was reserve margin at:	
Summer Peak	%
Winter Peak	%
What is your firm's average preferred reserve margin?	%

CONFIDENTIAL

No. IC_____

IRON & STEEL

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1985-88, in manufacturing, iron, coal, and metallic mining and 'other' activities. Please include under mining all operations including smelting and refining. (If answers omit 000s or 000,000s, note:_____.)

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Iron mining	$_____	$_____	$_____	$_____
Coal Mininig	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (please specify)	$_____	$_____	$_____	$_____
TOTAL	$_____	$_____	$_____	$_____

2. Of the total amount invested in new plants and equipment, what percent was (will be) for:

	1985	1986	1987
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for expansion?	%	%	%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%

3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).

	1985	1986	1987
Manufacturing	%	%	%
Metal mining	%	%	%
Coal Mining	%	%	%

At the end of 1985, at what rate of capacity was your company operating?

Manufacturing	%
Metal mining	%
Coal Mining	%

What is your firm's preferred rate of operation? %

CONFIDENTIAL

No. M_____

MINING

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1985-88, for manufacturing, nonferrous, and nonmetallic mining and other activities. Please include under nonmetallic mining all mineral processing. (If answers omit 000s or 000,000s, note:_____.)

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Nonferrous mining	$_____	$_____	$_____	$_____
Nonmetallic mining	$_____	$_____	$_____	$_____
Other (please specify)	$_____	$_____	$_____	$_____
TOTAL	$_____	$_____	$_____	$_____

	1985	1986	1987
2. Of the total amount invested in new plants and equipment, what percent was (will be) for:			
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for expansion?	%	%	%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%
3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).			
Manufacturing	%	%	%
Mining	%	%	%
At the end of 1985, at what rate of capacity was your company operating?			
Manufacturing	%		
Mining	%		
What is your firm's preferred rate of operation?	%		

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No. N_____

NONFERROUS METALS

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1985-88, for manufacturing, nonferrous, coal, and nonmetallic mining and 'other' activities. Please include under mining all operations including smelting and refining. (If answers omit 000s or 000,000s, note:_____.)

	1985	1986	1987	1988
Manufacturing	$_____	$_____	$_____	$_____
Nonferrous mining	$_____	$_____	$_____	$_____
Coal Mininig	$_____	$_____	$_____	$_____
Nonmetallic Mining	$_____	$_____	$_____	$_____
Other (please specify)	$_____	$_____	$_____	$_____
TOTAL	$_____	$_____	$_____	$_____

	1985	1986	1987
2. Of the total amount invested in new plants and equipment, what percent was (will be) for:			
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for expansion?	%	%	%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%
3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).			
Manufacturing	%	%	%
Metal mining	%	%	%
Coal Mining	%	%	%
At the end of 1985, at what rate of capacity was your company operating?			
Manufacturing	%		
Metal mining	%		
Coal Mining	%		
What is your firm's preferred rate of operation?	%		

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No. P_____

PETROLEUM

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did (will) your company invest (inflation included) in new plants and equipment in the U.S. in 1985-88, and what was (will be) the distribution among the following: (If answers omit 000s or 000,000s, note:_____.)

	1985	1986	1987	1988
Production/Exploration	$_____	$_____	$_____	$_____
Refining	$_____	$_____	$_____	$_____
Petrochemicals	$_____	$_____	$_____	$_____
Transportation	$_____	$_____	$_____	$_____
Marketing	$_____	$_____	$_____	$_____
Coal Mining	$_____	$_____	$_____	$_____
Other (please specify)	$_____	$_____	$_____	$_____
TOTAL	$_____	$_____	$_____	$_____

	1985	1986	1987
2. Of the total amount invested in new plants and equipment, what percent was (will be) for:			
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for expansion?	%	%	%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%
3. How much did (will) your company's capacity, measured in terms of physical volume, increase (decrease)? Please show yearend vs. yearend changes (yearend 1984 to yearend 1985 for the 1985 column, for example).			
Refining	%	%	%
Coal Mining	%	%	%
At the end of 1984, at what rate of capacity was your company operating?			
Refining	%		
Coal Mining	%		
What is your firm's preferred rate of operation?	%		

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No. RR_____

RAILROADS

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did your company invest in rolling stock, roadway, structures and equipment in 1985, and how much does it plan to invest (inflation included) in 1986-88? (If answers omit 000s or 000,000s note:_____.)

1985	1986	1987	1988
$	$	$	$

2. Of the total amount invested in new plants and equipment, what percent was (will be) for:

	1985	1986	1987
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%

CONFIDENTIAL

No. S_____

TRADE & SERVICES

McGRAW-HILL ECONOMICS
1221 Avenue of the Americas
New York, NY 10020

BUSINESS' PLANS FOR NEW PLANTS AND EQUIPMENT 1986-88

(All questions apply to U.S. only)

CAPITAL SPENDING

In your answers to the following questions, please include all purchases charged to capital accounts, whether for replacement, expansion, or other purposes. Please include the value of new plants and equipment leased to others, but not the value of new plants and equipment leased from others. Also, please do not include acquisitions. If your company merged with another since 1985, please report spending on a comparable basis for all years.

1. How much did your company invest in new plants and equipment in the U.S. in 1985, and how much does it plan to invest (inflation included) in 1986-88? (If answers omit 000s or 000,000s, note:_____.)

1985	1986	1987	1988
$	$	$	$

2. Of the total amount invested in new plants and equipment, what percent was (will be) for:

	1985	1986	1987
Buildings	%	%	%
Machinery & Equipment	%	%	%
Motor Vehicles	%	%	%
	100%	100%	100%
Of the total invested, what percent was (will be) for employee safety & health?	%	%	%
Of the total invested, what percent was (will be) for:			
Air Pollution Control	%	%	%
Water Pollution Control	%	%	%
Solid Waste Pollution Control	%	%	%

SALES AND PRICES

1. What were your company's sales, including exports, in 1985? (Please omit 000s.) $_____

2. By what percent do you think your sales will increase (decrease) between 1985-86? _____%

3. By what percent do you think the prices of goods and services your company sells will increase (decrease) between 1985-1986? _____%

4. By what percent do you expect the prices of plants and equipment your company buys to increase (decrease) between 1985-86? _____%

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____

ALL YOUR ANSWERS WILL BE HELD STRICTLY CONFIDENTIAL
(Please return by March 31)

RESEARCH AND DEVELOPMENT (R&D)

1. What was the cost of all R&D performed by your company in the U.S. in 1984 and 1985? (If answers omit 000s or 000,000s, note:_____.)

1984 $_____

1985 $_____

2. By what percent do you think your company's total R&D spending will increase (decrease) between 1985-86 and 1986-88?

1985-86	1986-88
%	%

SALES AND PRICES

1. What were your company's sales, including exports, in 1985? (If answers omit 000s or 000,000s, note:_____.) $_____

2. By what percent do you think your sales will increase (decrease) between 1985-86? _____%

3. By what percent do you think the prices of goods and services your company sells will increase (decrease) between 1985-1986? _____%

4. By what percent do you expect the prices of plant and equipment your company buys to increase (decrease) between 1985-86? _____%

NAME_____TITLE_____

COMPANY_____

ADDRESS_____

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(Please return by March 31)